SERVICE MANUAL

Scanner • Printer • Copier

EPSON Stylus PHOTO RX500/510

EPSON

SEOT03007

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PRECAUTIONS

Precautionary notations throughout the text are categorized relative to 1)Personal injury and 2) damage to equipment.

DANGER Signals a precaution which, if ignored, could result in serious or fatal personal injury. Great caution should be exercised in performing procedures preceded by DANGER Headings.

WARNING Signals a precaution which, if ignored, could result in damage to equipment.

The precautionary measures itemized below should always be observed when performing repair/maintenance procedures.

DANGER

1. ALWAYS DISCONNECT THE PRODUCT FROM THE POWER SOURCE AND PERIPHERAL DEVICES PERFORMING ANY MAINTENANCE OR REPAIR PROCEDURES.
2. NO WORK SHOULD BE PERFORMED ON THE UNIT BY PERSONS UNFAMILIAR WITH BASIC SAFETY MEASURES AS DICTATED FOR ALL ELECTRONICS TECHNICIANS IN THEIR LINE OF WORK.
3. WHEN PERFORMING TESTING AS DICTATED WITHIN THIS MANUAL, DO NOT CONNECT THE UNIT TO A POWER SOURCE UNTIL INSTRUCTED TO DO SO. WHEN THE POWER SUPPLY CABLE MUST BE CONNECTED, USE EXTREME CAUTION IN WORKING ON POWER SUPPLY AND OTHER ELECTRONIC COMPONENTS.

WARNING

1. REPAIRS ON EPSON PRODUCT SHOULD BE PERFORMED ONLY BY AN EPSON CERTIFIED REPAIR TECHNICIAN.
2. MAKE CERTAIN THAT THE SOURCE VOLTAGES IS THE SAME AS THE RATED VOLTAGE, LISTED ON THE SERIAL NUMBER/RATING PLATE. IF THE EPSON PRODUCT HAS A PRIMARY AC RATING DIFFERENT FROM AVAILABLE POWER SOURCE, DO NOT CONNECT IT TO THE POWER SOURCE.
3. ALWAYS VERIFY THAT THE EPSON PRODUCT HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE REMOVING OR REPLACING PRINTED CIRCUIT BOARDS AND/OR INDIVIDUAL CHIPS.
4. IN ORDER TO PROTECT SENSITIVE MICROPROCESSORS AND CIRCUITRY, USE STATIC DISCHARGE EQUIPMENT, SUCH AS ANTI-STATIC WRIST STRAPS, WHEN ACCESSING INTERNAL COMPONENTS.

5. REPLACE MALFUNCTIONING COMPONENTS ONLY WITH THOSE COMPONENTS BY THE MANUFACTURE; INTRODUCTION OF SECOND-SOURCE ICs OR OTHER NON-APPROVED COMPONENTS MAY DAMAGE THE PRODUCT AND VOID ANY APPLICABLE EPSON WARRANTY.

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About This Manual

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of the printer. The instructions and procedures included herein are intended for the experienced repair technicians, and attention should be given to the precautions on the preceding page.

Manual Configuration

This manual consists of six chapters and Appendix.

CHAPTER 1. PRODUCT DESCRIPTIONS
Provides a general overview and specifications of the product.

CHAPTER 2. OPERATING PRINCIPLES
Describes the theory of electrical and mechanical operations of the product.

CHAPTER 3. TROUBLESHOOTING
Describes the step-by-step procedures for the troubleshooting.

CHAPTER 4. DISASSEMBLY / ASSEMBLY
Describes the step-by-step procedures for disassembling and assembling the product.

CHAPTER 5. ADJUSTMENT
Provides Epson-approved methods for adjustment.

CHAPTER 6. MAINTENANCE
Provides preventive maintenance procedures and the lists of Epson-approved lubricants and adhesives required for servicing the product.

APPENDIX Provides the following additional information for reference:

- Connector pin assignments
- Electric circuit boards components layout
- Electrical circuit boards schematics
- Exploded diagram & Parts List

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Be aware of all symbols when they are used, and always read NOTE, CAUTION, or WARNING messages.

Indicates an operating or maintenance procedure, practice or condition that is necessary to keep the product's quality.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in injury or loss of life.

Indicates that a particular task must be carried out according to a certain standard after disassembly and before re-assembly, otherwise the quality of the components in question may be adversely affected.

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Revision Status

Revision	Date of Issue	Description
A	September 16, 2003	First release
B	February 2, 2004	CHAPTER 1 PRODUCT DESCRIPTION • Outside Drawing is added to 1.2.7 Weight and Overall Dimensions *(p.11)*. CHAPTER 2 OPERATING PRINCIPLES • 2.2.1.2 Printerhead Specification *(p.15)* is added. • 2.2.1.3 Paper Feeding Motor Specification *(p.15)* is added. • 2.2.1.4 PW Detector Specification *(p.15)* is added. • Figure 2-3. Scanner Mechanism *(p.16)* is altered. CHAPTER 3 TROUBLESHOOTING • 3.3 Troubleshooting for Printer / Faulty paper ejection *(p.30)* is modified. • 3.4 Troubleshooting for Scanner / Carriage unit does not operate *(p.33)* is modified. • 3.4 Troubleshooting for Scanner / Fluorescent lamp does not turn on *(p.33)* is modified. • 3.6 Troubleshooting for Motors and Sensors *(p.35)* is modified. CHAPTER 4 DISASSEMBLY AND ASSEMBLY • 4.1.5 Stylus PHOTO RX500/510 Disassembly *(p.40)* is modified. • 4.5 Disassembly and Assembly of Printer Unit *(p.49)* is modified. • 4.5.3 Printhead *(p.53)* is added. • 4.5.7 Front Frame Assembly *(p.57)* is added. • 4.5.8 Front Paper Guide *(p.57)* is added. • 4.5.9 Waste Liquid Pad *(p.58)* is added. CHAPTER 5 ADJUSTMENT • 5.1 Overview *(p.63)* is altered. • 5.2 Adjustments by Adjustment Program *(p.65)* is added. • 5.3 Firmware Uploading *(p.78)* is modified. CHAPTER 6 MAINTENANCE • 6.1.1 Maintenance of the Printer *(p.80)* is modified. CHAPTER 7 APPENDIX • 7.1 Connectors / 7.1.1 Connector Assignments *(p.86)* is modified. • 7.1 Connectors / Figure 7-1 Connector Assignments of Circuit Boards *(p.86)* is modified. • A figure is added to 7.3 Exploded Diagrams *(p.94)*. • A list is added to 7.4 ASP List *(p.101)*.
C	September 24. 2004	Revision of 5.3 Firmware Uploading *(p.78)*

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CHAPTER

1

PRODUCT DESCRIPTION

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1.1 Overview

This section describes the specifications for the SPC (Scanner, Printer, Copier) machine “Stylus PHOTO RX500/510”.

1.1.1 Basic Functions

The functions of Stylus PHOTO RX500/510 are as described below:

☐ Printer function

High quality and high speed printing, improved durability against lights, water, gas and rubbing on regular copy paper due to introduction of new dye ink, and has following features:

- Maximum printing resolution: 2880 (H) x 1440 (V) dpi
- Six color independent ink cartridge
- BorderFree print on Epson special paper
- Low noise
- Alarms to prevent paper jam when stacker (output tray) is closed
- Print head
  Black Ink : 90 nozzles
  Color Ink : 90 nozzles x 5 colors (C, M, Y, LC, LM)

CHECK POINT

Ink cartridge is not compatible to previous model, Stylus CX3100/ 3200.
Refer to “ 1.3 Ink Cartridge *(p12)* ”**.**

☐ Scanner function

The image can be easily acquired in the PC. Other features are as follows:

- The maximum optical resolution :2400 x 4800dpi
- Reading gradations :16bit (Input) /1bit, 8bit, 16bit (Output)

☐ Standalone Copier function

The latest six color dye type printer engine allows to make photo quality copies on the Epson special coated paper.
Other features are as follows:

Copy Mode	Margin	Feature
Standard copy	3mm	Normal copy
BorderFree copy	N/A	Full copy with no margin
Small margin copy	1.5mm	Margins are 1.5 mm in four sides
Repeat copy	-	Copies original size on multiple places in the media (4/8/16).
Poster copy	-	Divides the original image into 4/8/16, and produces poster size copy (A4 and Letter size only).
2-up/4 up copy	-	Reduces 2 pages/4 pages of the original image to single page.
Mirror copy	-	Flips over the original left to right.
Wallet size photo copy (Only for EAI)	-	Adjusts image to wallet size (3.5” x 2.5”), and places (For EAI only) multiple images in single page (A4 and Letter size only)

☐ Print Function with Memory Card

Stylus PHOTO RX500/510 is equipped with built-in memory card slot, and print function with memory card at standalone.
Other features are as follows:

- Supports index sheet print that allows you to simply select images by marking on index sheet. Simplifies image selection by scanning or checking the marking sheet.
- Ten key allows you to select single image and print range, or all images and all range print.
- Compatible to various memory cards.

Compact Flash / Microdrive
Smart Media / xD-Picture Card
Memory Stick / MagicGate Memory Stick / Memory Stick PRO / Memory Stick Duo* / SD Memory Card / miniSD Card* /MultiMediaCard

Note “*”: Adapter required

1.2 Common

The specifications described below are common to the scanner and printer.

1.2.1 Electrical Specifications

Table 1-1. AC Input

	100V model	120V model	220-240V model
Rated voltage (ACV)	100	120	220-240
Input voltage (ACV)	90-110	108-132	198-240
Rated current (A)	0.8A	0.8A	0.4A
Rated frequency range (Hz)	50 ~ 60		
Input frequency range (Hz)	49.5 ~ 60.5		
Power consumption (W)	Approx. 21 W (Standalone copying, ISO10561 Letter Patter, Plain Paper - Text)		
	Approx. 4 W (Sleep Mode)		Approx. 4 W (Sleep Mode)
	Approx. 0.4 W (Power Off Mode)		Approx. 0.5 W (Power Off Mode)

Note 1: The product is Energy Star compliant.

2: The holding current to the motors is reduced when the printer has stayed in non-operation status for 5 minutes.

3: The Scanner lamp is turned off when the Scanner has stayed in nonoperation status for 15 minutes.

1.2.2 Interface

USB 2.0 compatible. See Table 1-2. for details.

Table 1-2.

Item	Descriptions
Standard	"Universal Serial Bus Specifications Revision 2.0" "Universal Serial Bus Device Class Definition for Printing Devices Version 1.1" (printer unit) "Universal Serial Bus Mass Storage Class Bulk-Only Transport Revision 1.0"(storage unit)
Data transfer speed	480Mbps (High Speed Device)
Data format	NRZI
Conforming connecter	USB Series B

1.2.3 Conformance with Safety and EMC Standards

☐ Conformance with EMC standard

Table 1-3.

	120 V version	220-240 V version
Safety	• UL1950 • CSA 22.2 No.950	• EN 60950(VDE)
EMI	• FCC part15 subpart B class B • CSA C108.8 class B	• EN 55022 (CISPR Pub.22) class B • AS/NZS 3548 class B

1.2.4 Environmental Conditions

Table 1-4.

	Operating	Storage	Transporting*3
Temperature	10 ~ 35 °C*1	- 20°C ~ 40°C*2	-20°C ~ 60 °C*1
Humidity (no condensation)	20 ~ 80%, RH	20 ~ 85%	5 ~ 85%, RH
Resistance to physical shock	1 G, 1 x 10^{-3} second		2 G, 2 x 10^{-3} second
Resistance to physical vibration	0.15G		0.50G

Note "*1": 1 month at 40 °C or 120 hours at 60 °C

"*2": 1 month at 40 °C

"*3": In the shipment container.

1.2.5 Reliability

5 years or following printable media volume whichever comes first:

- Total print volume
  Black Ink : 50,000 pages (A4)§
  Color Ink : 20,000 pages (A4)§
- Print head life
  30 million dots/nozzle
- Scan head
  MCBF 30,000 cycles

1.2.6 Acoustic Noise

- Level
  Approx.TBD dB (copy in use, ISO7779)

1.2.7 Weight and Overall Dimensions

- Weight:
  9.8 kg (Excluding ink cartridge)
- Overall Dimensions (mm):
  455.9 x 439.1 x 256.0 (Width x Depth x Height)

NOTE: *Neither the rubber feet nor the paper tray is included.*

Figure 1-1. External Appearance

1.3 Ink Cartridge

- ☐ Type: Ink cartridge
- ☐ Suggested effective period: Period described on the product package, or six months after opening.
- ☐ Storage temperature
  - ■ Storage: -30°C ~ 40°C (If 40°C, within 1 month)
  - ■ Transporting: -30°C ~ 50°C (If 50°C, within 10 days)
  - ■ When installed: -20°C ~ 40°C (If 40°C, within 1 month, Temperature change must be within the specified ranges, but no higher than 45°C.)
- ☐ Other

Table 1-5.

Color		Model Number		Dimensions (mm) (W x D x H)	Life*1
		Europe, EAI	Asia/Latin		
Black Ink Cartridge		T0481	T0491	12.7 x 73.46 x 55.25	*2
Color Ink Cartridge	Cyan	T0482	T0492		*2
	Magenta	T0483	T0493		*2
	Yellow	T0484	T0494		*2
	Light Cyan	T0485	T0495		*2
	Light Magenta	T0486	T0496		*2

Note "*1": 400pages/A4 (360dpi,5%duty each color)

"*2": This value reflects continuous print *3 after replacing the ink cartridge. Depending on numbers of cleaning, this value become smaller. The first ink cartridge installed in this product will be used to bring it to printable condition.

"*3": Continuous print: Continuous printing without stopping action due to power ON/ OFF or head cleaning.

Note : Ink in the cartridge freezes if it is left in the temperature below -16°C. Once ink is frozen, it takes approx. 3 hours to return to be usable condition if ink is in -20°C and moved to in 25°C.

CHAPTER

2

OPERATING PRINCIPLES

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2.1 Overview

This Chapter describes the operating principles of the mechanism and electric circuits of EPSON Stylus PHOTO RX500/510.
EPSON Stylus PHOTO RX500/510 mainly, basically consists of a printer and a scanner. The mechanism can be divided into the printer and the scanner. The electric circuit includes the Main Board circuit, Power Supply Board circuit, scanner carriage circuit and control panel circuit.

2.2 Mechanism

2.2.1 Printer Mechanism

The printer mechanism comprises the Carriage carrying the print head, the CR Motor for driving the carriage in the lateral direction in the printing range, the Capping Unit for preventing the print head from drying, the PF Motor for transporting the paper, the ASF Unit for loading paper by the driving force from the PF motor, and the Paper Eject Unit for ejecting the paper after printing.

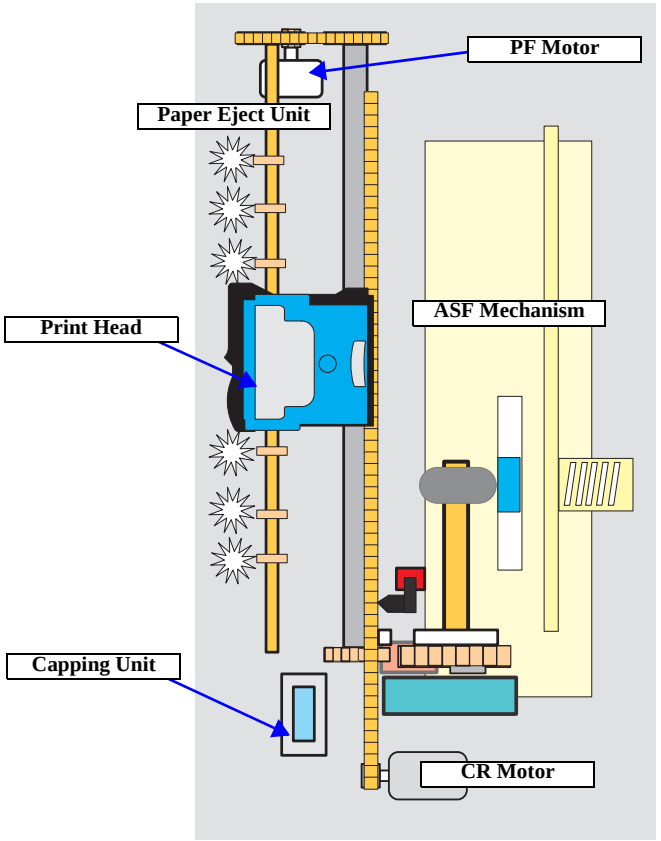

Figure 2-1. Outline of Printer Mechanism

2.2.1.1 Carriage Motor Specification

Table 2-1. CR Motor Specification

Item	Specifications
Type	DC Motor with brush
Voltage	+ 42V (DC) ±5% (printable voltage to the driver)
Resistance	22.65 Ω ± 10%
Inductance	17.3 mH ± 25%
Drive	PWM system, rated current chopping system
Drive IC	A6615

2.2.1.2 Printerhead Specification

- Black Ink : 90 nozzles
  Color Ink : 90 nozzles x 5 colors (C, M, Y, LC, LM)

2.2.1.3 Paper Feeding Motor Specification

Table 2-2. PF Motor Specification

Item	Specifications
Type	4-phase 200-pole HB stepping motor
Voltage	+ 42V (DC) ±5% (printable voltage to the driver)
Resistance	30 Ω ± 10%
Inductance	3.5 mH ± 20%
Drive	Bipolar driving
Drive IC	A6615

2.2.1.4 PW Detector Specification

Stylus PHOTO RX500/510 has newly employed a PW (Paper Width) sensor that is described in detail below.

☐ Purpose of Detection

- To prevent printing with no characters on cut sheet.

☐ Detector Specification

Item	Specification
Detecting method	Photoelectric conversion method (reflection type) (SHARP GP2S40V)
Open-collector electric characteristic	Collector withstand-voltage: not more than 30V Sinc current : not more than 0.2mA Driving voltage : 3.3 ± 5%

☐ Switching Mode

Detected State	Switching Mode	Detector Output
Paper existent	Open	Voltage low
Paper non-existent	Close	Voltage high

Note: Paper head signals shall be converted by means of 8-bit A/D conversion.

☐ PW Detector Control

There are two controlling methods using PW detector as follows:

- Control of preventing print with no characters
  Before start of print (immediately after paper head feed is complete) or during print, this control detects the existence of paper with PW detector, driving CR and PF motors and prevents print with no characters on paper sent to paper guide, which applies to only right and left edges of paper.
- Control of restriction to run-off
  This control detect paper edges with PW detector at the time of printing with no margin, and restrict the printing run-off quantity. It detects 4 edges when no margins are set for 4 sides of paper. For each mode, run-off area thin-out control is set that further compensates for run-off mask area at the time of printing with no characters.

Controlling of each detection

Table 2-3.

Detection Type	Detection Direction	CR Drive at Time of Detection	PF Drive at Time of Detection	Detection Timing
• Control of preventing print with no characters • Control of restriction to run-off	CR direction	Interrupt control (PID/load positioning control)	At stop or during drive	• After paper head feed or during print • Acquisition of position with factory command at time of adjustment
	PF direction	Stop	At time of interrupt control (PID or BS control)	

(Carriage bottom face)

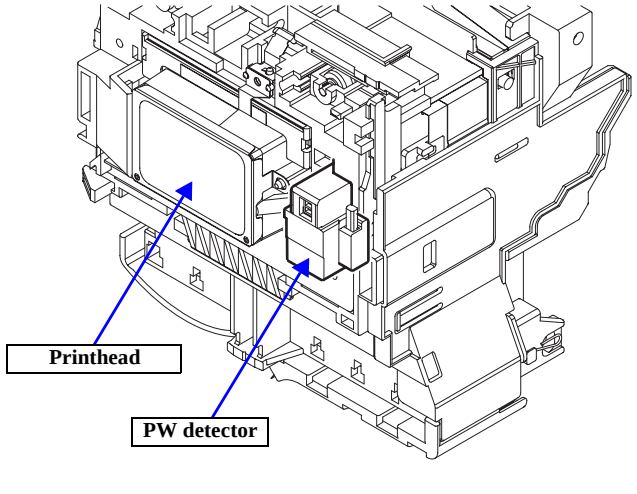

Figure 2-2. PW Detector Installing Position

2.2.2 Scanner Mechanism

The scanner consists of the Scanner Carriage Unit comprising the CCD for capturing images and the light source for illuminating the document, the Scanner Motor and Timing Belt for moving the scanner carriage unit along the document surface, and the Scan HP Detector for detecting the position of the scanner carriage unit.

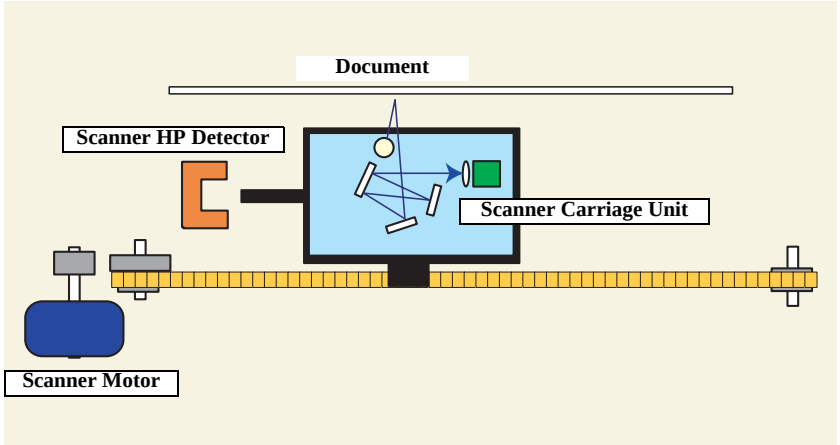

Figure 2-3. Scanner Mechanism

2.3 Electric Circuit

The electric circuit boards of Stylus PHOTO RX500/510 are as follows:

- C544MAIN Board (main circuit board)
- C543PSB Board / C543PSE Board (power supply circuit board)
- CCD circuit board (Scanner circuit board)
- Panel circuit board

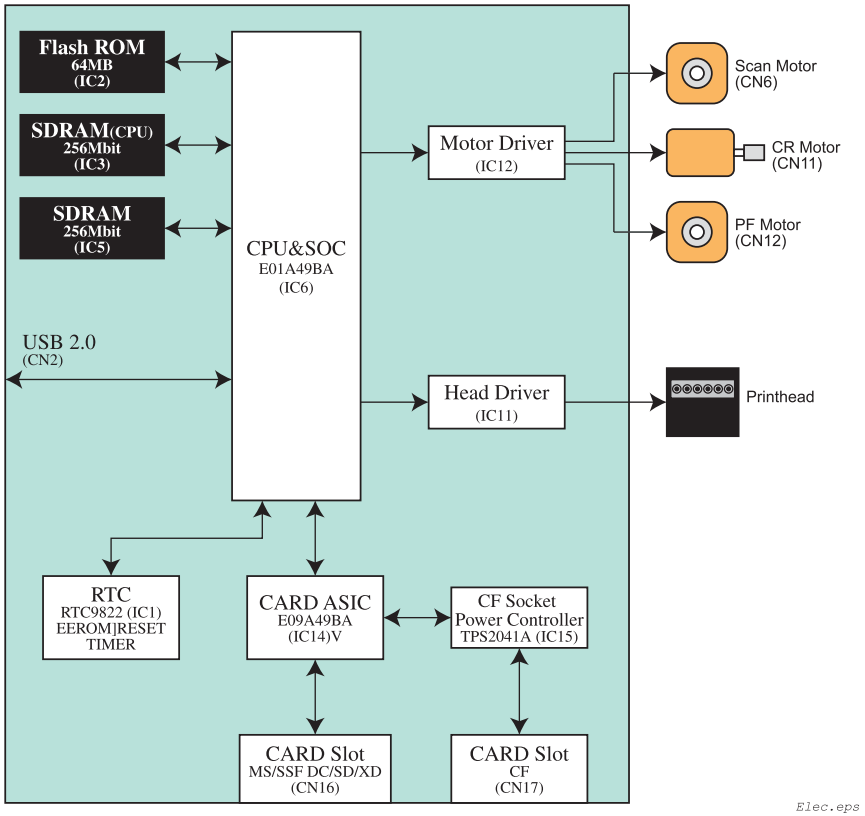

Figure 2-4. Electric Circuit Block

2.3.1 C544 Main Circuit Board

2.3.1.1 Feature

- USB 2.0 with multi-end points allows high speed SPC without HUB
- SOC with printer control, scanner control, PT control, CPU SuperMacro
- 1CPU (NA85E2C by NEC) controls printer, scanner and PT unit
- 256Mbit*16 SDRAM (2 units)
- A6615 drives DC x 2 and DC x 2 with 1Chip to motor driver
- SOC obtains wider band ranges by setting action frequency of local SDRAM to 96MHz
- Copy function allows faster process with SOC to scan, and to generate 2-values, microwave, image buffer instead of going through CPU bus.
- Low current allows LCD to reduce power consumption in low power mode as follows:
  - Lowering power supply voltage
  - Shutting off optical current for optical sensor
  - SLEEP mode for motor drive
  - Saving the power for printer with no exciting motor
  - Saving the power for scanner by turning off the lamp
  - Equipped with printer tray open sensor

Table 2-4.

Main Element	location	Function
Built-in CPU core SOC (E01A49B*)	IC6	• Built-in NA85E2C core • Built-in iLB RAM 12Kbyte, Built-in dLB RAM 4Kbyte Built-in iCACHE 8Kbyte, Built-in dCACHE 8Kbyte • Action frequency CPU core :192MHz(SSCG) NPB macro (UART, TimerC/D, Prescaler) :48MHz User logic (scanner/photo print) :48MHz (SSCG) User logic (printer) :48MHz Local SDRAM :96MHz(SSCG) External bus clock :64MHz(SSCG) • Power supply voltage : internal 1.5 V, external 3.3 V
FLASH ROM (MBM29PL32BM)	IC2	• Firmware • 32MB, 16bit bus, 48pin, 3.3V drive
SDRAM (K4S561632)		• System Memory (for CPU) • 256 Mbit, 16 bit bus, 54pin, 133MHz (CL=2) minimum
SDRAM (K4S561632)		• Work memory for copy function (image processing) • 256 Mbit, 16 bit bus, 54pin, 133MHz (CL=2) minimum
Card ASIC (E09A49B*)	IC14	• Bus clock : 64MHz , internal clock : 48MHz • 3.3V Single power supply
CF Socket Power Controller (TPS2041A)	IC15	• 8 pin PSOP • Power control 1CH with current limit
RTC circuit (RTC9822)	IC1	Multiple IC • EEPROM (Default value, store various parameters) • RESET • TIMER
Motor drive circuit (A6615)	IC12	• CR motor, PF motor, scanner motor drive circuit • Drive motor: 42V ±5%
Head drive circuit (E09A41RA)	IC11	• Head drive control (control port for SOC)

CHAPTER

3

TROUBLESHOOTING

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3.1 Overview

With this printer, almost all troubles can be coped with by using “EPSON Status Monitor 3” installed on the host personal computer.

Once an error occurs, the “EPSON Status Monitor 3” will appear as a pop-up window on the screen of the host PC. It will show details of how to cope with the trouble. In almost all cases, the user can recover the printer from the error, provided that the user follows the instructions indicated on the pop-up window.

In addition, the User's Manual for EPSON Stylus PHOTO RX500/510 describes detailed steps to be taken for recovery from typical errors.

3.1.1 Specified Tools

This printer does not require any specified tools for troubleshooting.

3.1.2 Preliminary Checks

Before starting troubleshooting, be sure to verify that the following conditions are all met:

- ☐ The power supply voltage must be within the specification limits. (Measure the voltage at the wall socket.)
- ☐ The POWER CORD must be free from damage, short circuit or breakage, or miswiring in the POWER CORD.
- ☐ The printer must be grounded properly.
- ☐ The printer should not be located in a place where it can be exposed to too high or low temperature, too high or low humidity, or abrupt temperature change.
- ☐ The printer should not be located near waterworks, near humidifiers, near heaters or near flames, in a dusty atmosphere or in a place where the printer can be exposed to blast from an air conditioner.
- ☐ The printer should not be located in a place where volatile or inflammable gases are produced.
- ☐ The printer should not be located in a place where it can be exposed to direct rays of the sun.
- ☐ The printer must be located in a well-ventilated place.
- ☐ The printer must be placed on a strong and steady level table (without an inclination larger than 5 degrees).
- ☐ The paper used must conform to the specification.
- ☐ There is no error in handling of the printer.
- ☐ Check the inside of the printer, and remove foreign matters, if any, such as paper clips, staples, bits of paper, paper dust or toner.
- ☐ Clean the inside of the printer and the rubber rolls.

3.2 Troubleshooting at Unit Level

By following this troubleshooting procedure, when some trouble has occurred, you can easily identify the unit which is the cause of the trouble, from its observation. Table 3-1 and Table 3-2 list the observations of various troubles. Once the type of the trouble has been identified, refer to the flowchart for that trouble.

The flowchart shown in Table 3-1 outlines the troubleshooting procedure.

NOTE: *See "3.6 Troubleshooting for Motors and Sensors" (p35) for troubleshooting for motors and sensors.*

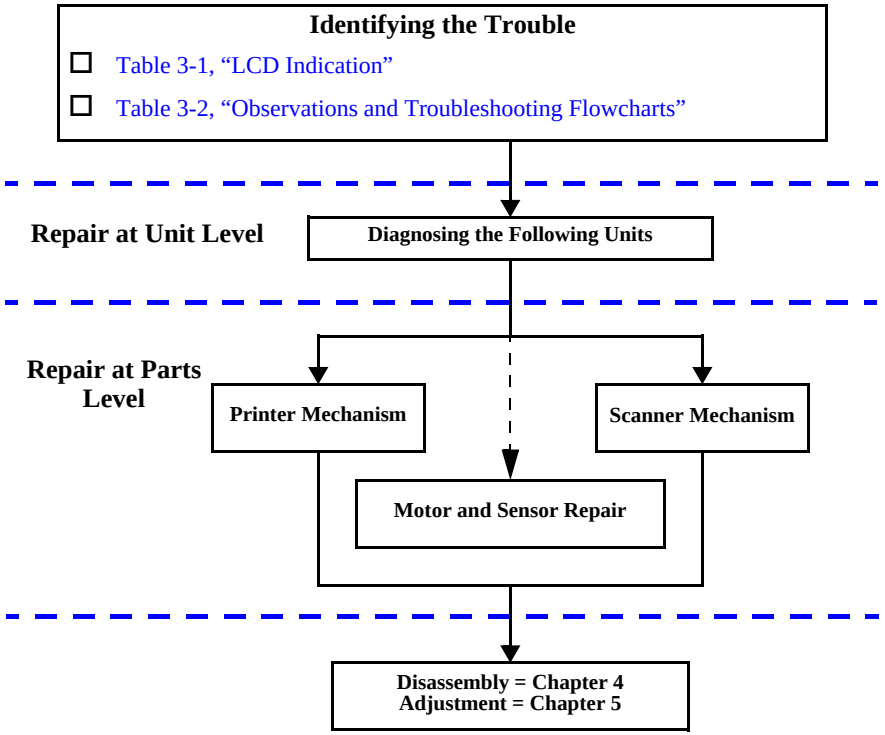


Figure 3-1. Troubleshooting Flowchart

Table 3-1. LCD Indication

Error Status	LCD Indication*1	LED Indication	
		Power	Error LED
Printer fatal error	Error Printer error → See your documentation and call service if necessary.	-	Lighting up
Scanner fatal error	Error Scanner error → See your documentation and call service if necessary.	-	Lighting up
Scanner unit open	Error Scanner unit open → Close the scanner unit.	-	Lighting up
Paper out	Error Paper out → Load paper into the sheet feeder,then press the Color button.	-	Lighting up
Paper jam	Error Paper jam → Press the Color button. Remove any remaining jammed paper by hand.	-	Lighting up
No ink cartridge	Error <No ink cartridge colors> ink cartridge → Press the Color button to install a new ink cartridge.	-	Lighting up
Ink end	Error <Ink out colors> ink out → Press the Color button to begin the ink cartridge replacement.	-	Lighting up
Ink cartridge error	Error <Ink cartridge error colors> ink cartridge error → Cartridge replacement is necessary.Press the Color button to begin.	-	Lighting up

Note "*1": The upper line shows "Error indication" and the lower line shows descriptive character strings by scrolling.

Table 3-2. Observations and Troubleshooting Flowcharts

Observation	Details	Refer to
Power is on but not operating	• LED does not turn on at all. • Printer mechanism does not operate at all. • Scanner mechanism does not operate at all.	Figure 3-2
Error is detected	• LCD/LED panel shows error status.	Figure 3-3
Trouble related to print	• Printing is not done. • Print is abnormal (Dot missing, etc.). • Print quality is bad.	Figure 3-4
Paper feeding is not normally carried out.	• Paper feeding is not done. • Paper jam occurs. • Paper start up position is not correct.	Figure 3-5
Faulty operation panel	• Pressing a button does not work.	Figure 3-6
Trouble related to scanner	• Scanner does not operate normally.	Refer to "3.4 Troubleshooting for Scanner" *(p32)*

3.2.1 Printer / Scanner does not operate at all even with power turned on

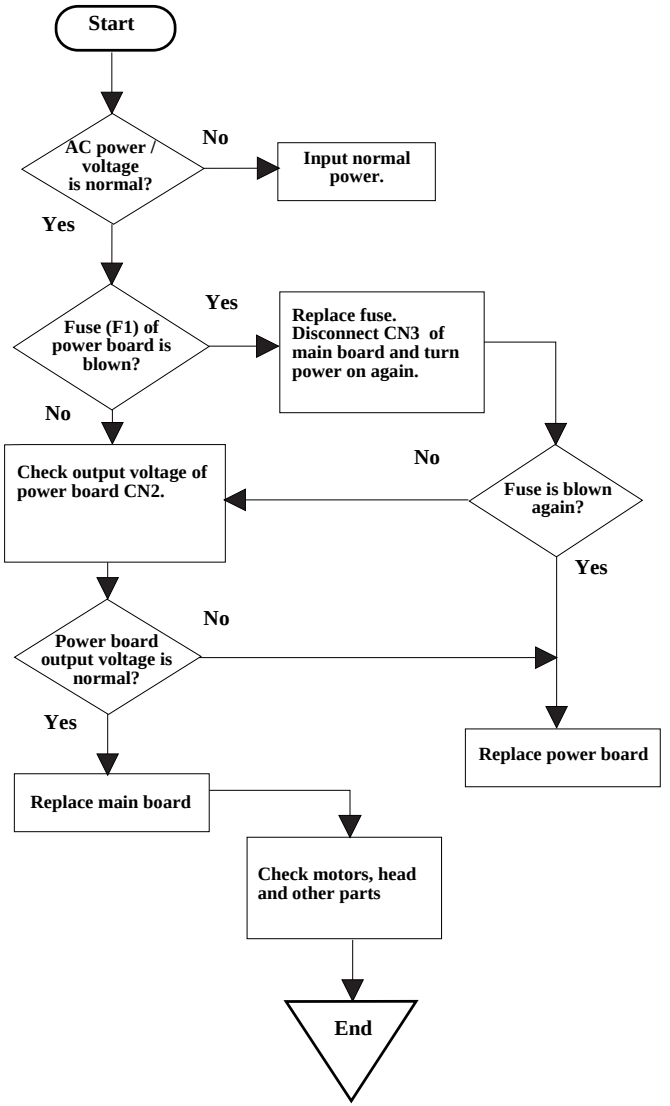


Figure 3-2. Flowchart-1

3.2.2 Error is detected

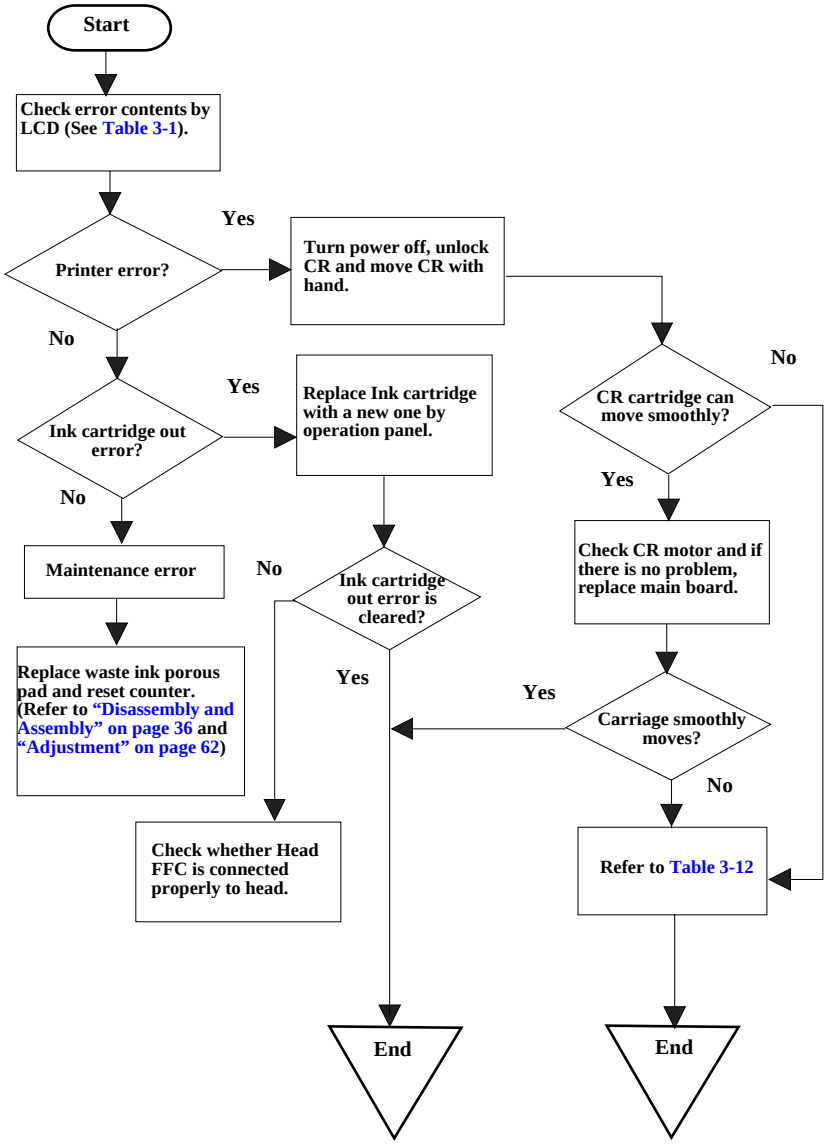

Start
Check error contents by LCD (See Table 3-1).
Printer error?
Yes
Turn power off, unlock CR and move CR with hand.
No
Ink cartridge out error?
Yes
Replace Ink cartridge with a new one by operation panel.
No
Maintenance error
Replace waste ink porous pad and reset counter. (Refer to "Disassembly and Assembly" on page 36 and "Adjustment" on page 62)
No
Ink cartridge out error is cleared?
Yes
Check whether Head FFC is connected properly to head.
End
CR cartridge can move smoothly?
No
Yes
Check CR motor and if there is no problem, replace main board.
Carriage smoothly moves?
Yes
No
Refer to Table 3-12
End

Figure 3-3. Flowchart-2

3.2.3 Trouble related to Print

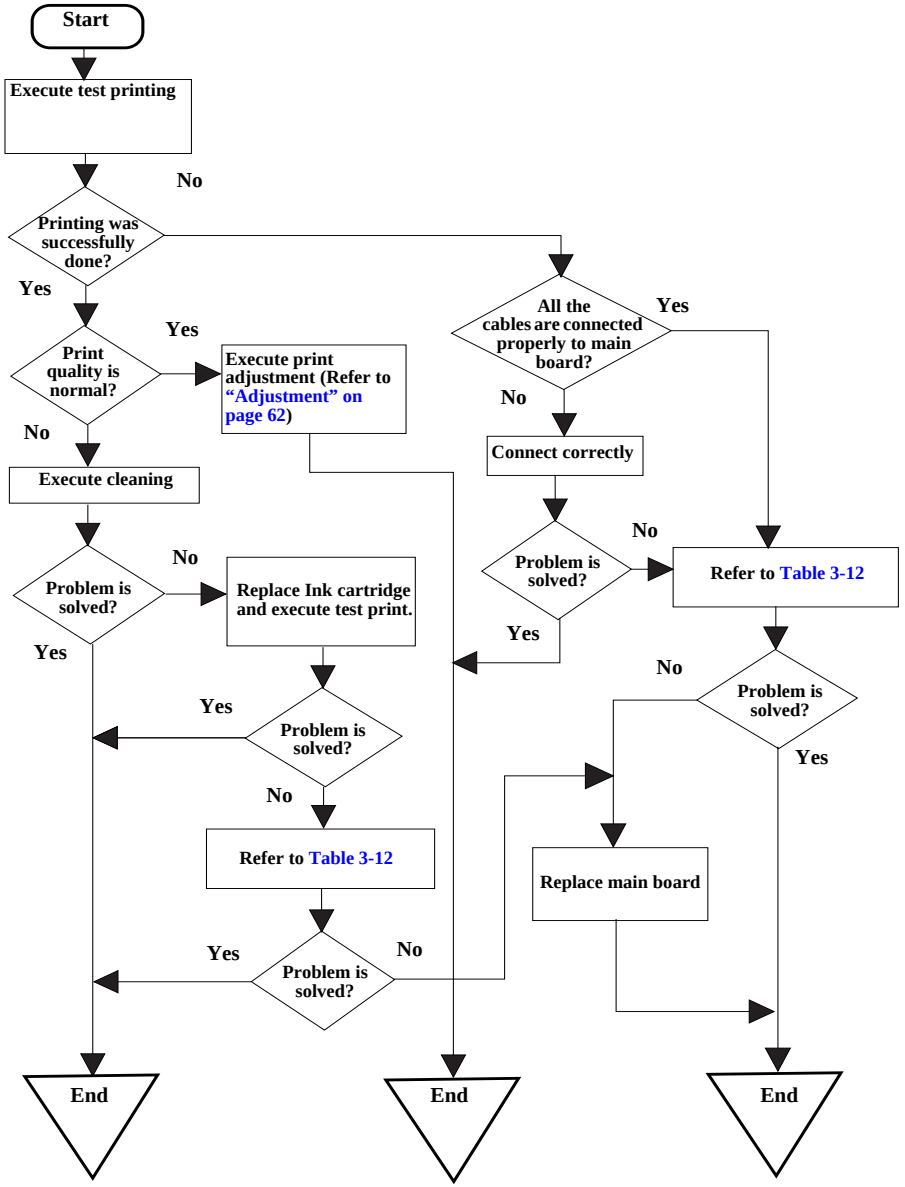


Figure 3-4. Flowchart-3

3.2.4 Paper feeding is not normally carried out

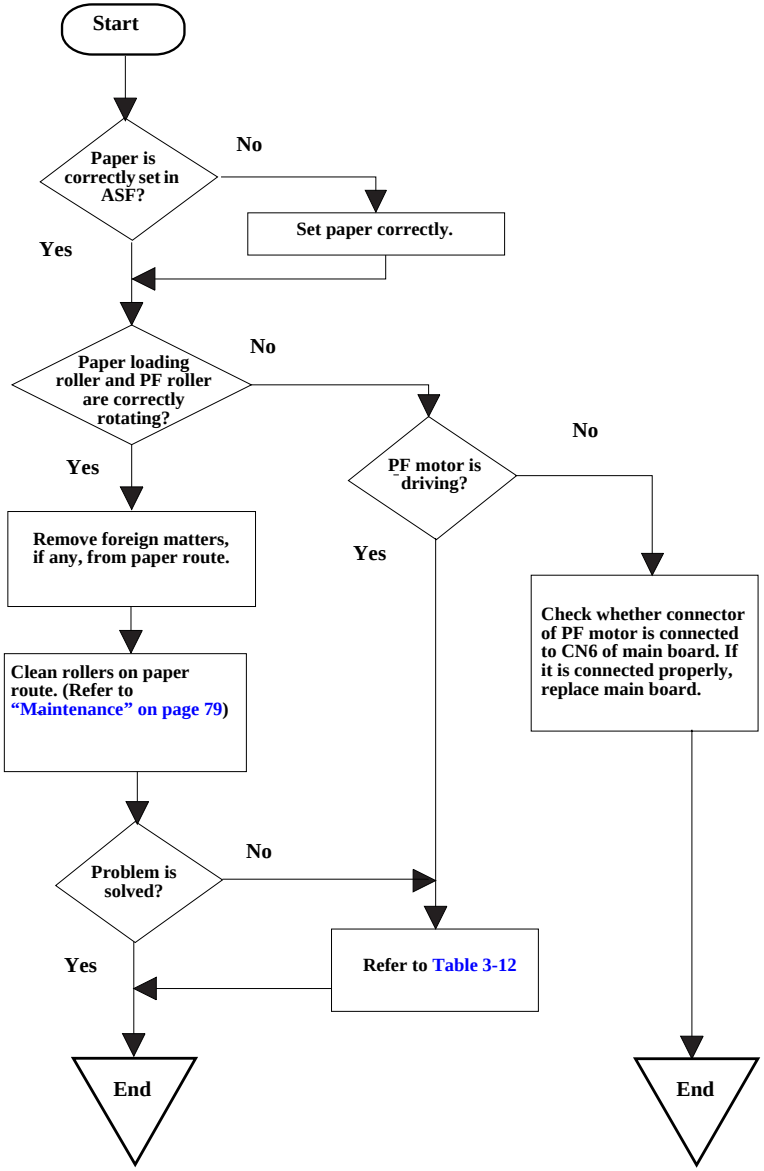

Start
Paper is correctly set in ASF?
No
Set paper correctly.
Yes
Paper loading roller and PF roller are correctly rotating?
No
Yes
PF motor is driving?
No
Yes
Remove foreign matters, if any, from paper route.
Check whether connector of PF motor is connected to CN6 of main board. If it is connected properly, replace main board.
Clean rollers on paper route. (Refer to "Maintenance" on page 79)
Problem is solved?
No
Yes
Refer to Table 3-12
End
End

Figure 3-5. Flowchart-4

3.2.5 Operation Panel faulty

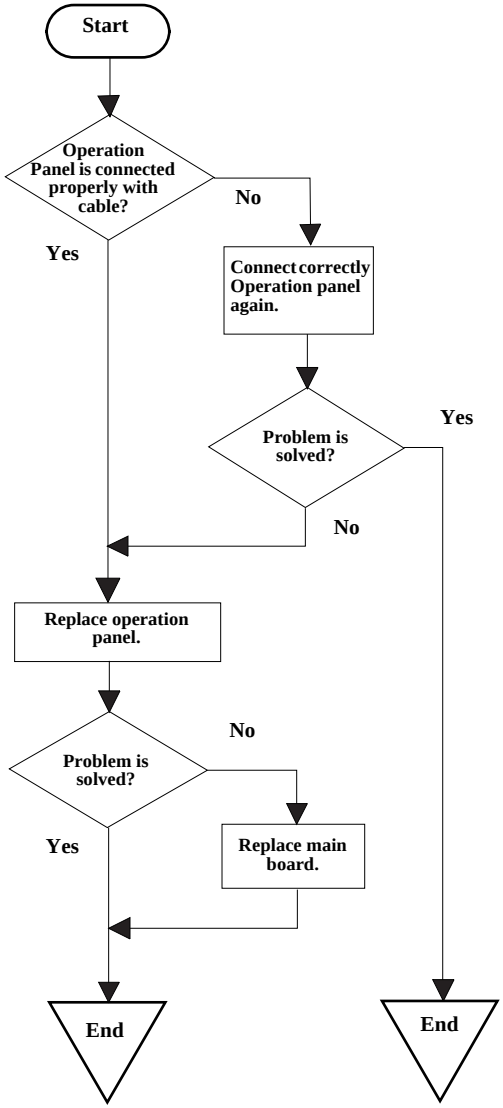


Figure 3-6. Flowchart-5

3.3 Troubleshooting for Printer

This section describes repair / service of the Printer Mechanism. Listed below are various problems which may occur, observations of such problems, check point and remedies. For the pertinent observation, check the functions of the parts in question according to Check Point.

Table 3-3. Printer Errors

Observation	Cause	Remedy
Ink shortage / Ink out	• If any ink cartridge comes close to Ink out, Printer continues printing in ink shortage status. • If cartridge is completely empty, Printer indicates ink out error and stop printing.	• Start cleaning execution command on Panel or by Utility. • Carriage automatically moves to replacement position. • Replace ink cartridge with a new one.
Paper out	• When Printer cannot load paper, paper out error is indicated. • Paper stops in front of PE detector or paper is not loaded. • Paper is loaded without adjusting paper to right edge guide.	1. Set paper on tray if paper is out. 2. If paper is stopped midway, pull paper out and check that paper is not folded. Loosen paper well and set it again with edge guide adjusted to paper width. 3. Execute “Load/Eject”. • Clean paper loading roller. Or replace paper loading roller. • Check that gears for ASF are engaged correctly.
Paper jam	When paper is not ejected, paper jam error is indicated.	• Select “Load/Eject” from menu and execute it. 1. Open the printer cover and remove with hand all the paper inside the printer and all the set paper if there is paper on the way of loading. 2. Check that there is no paper in the printer and set paper again and execute paper loading and paper ejection. Then, this error display will be cleared and if there is print data, print operation will start. • Check whether Platen gap is correct value. (Refer to “Adjustment” on page -62)

Table 3-3. Printer Errors (continued)

Observation	Cause	Remedy
Ink cartridge out	• If Ink cartridge is not correctly set, printer indicates ink cartridge out error.	• Check CSIC connection circuit. • Replace ink cartridge.
Maintenance error	Waste ink overflow indication is displayed if the total amount of ink consumed by cleaning and/or flushing has exceeded the predetermined limit.	After replacing waste ink porous pad, reset waste ink overflow counter.
Fatal error	• Carriage error: • Home of carriage can not be recognized. • Abnormal external power was applied to carriage or carriage operation is obstructed during printing. • PF error: PF motor does not operate adequately to feed paper by the required distance.	• Several seconds or more after turning power off, press power switch to turn power on. • Open maintenance cover and check that there is no obstacle in the carriage moving zone. If the error is not cleared even by the above operation, check the followings: • CR HP sensor/Harness • CR Lock mechanism • Main board

Troubleshooting without error display on LCD. For Items and pages, refer the following:

- Faulty pump mechanism *(p26)*
- Ink is not absorbed at all or ink absorption is poor. *(p26)*
- Faulty carriage operation *(p27)*
- Printing is not carried out correctly. *(p27)*
- Faulty print *(p28)*
- Faulty paper loading *(p30)*
- Faulty paper ejection *(p30)*
- Printer stops during initialization *(p31)*

☐ Faulty pump mechanism

Table 3-4. Diagnostics when pump mechanism is abnormal

Condition	Cause	Check Point	Remedy
When power is turned on, PF motor operation is abnormal.	There are foreign matters on the PF gear.	Operate the platen drive gear by hand and check whether it rotates properly.	Remove foreign matters. Replace the printer mechanism.
	PF motor is faulty.	Check whether the internal coil resistance is just as specified and whether the harness is connected properly. See Table 3-21 "Motor Resistance and Check Point" *(p 35)*.	Replace the printer mechanism or PF motor.

☐ Ink is not absorbed at all or ink absorption is poor.

Table 3-5. Diagnostics when ink is not absorbed

Condition	Cause	Check Point	Remedy
Ejected ink does not flow into Ink Eject tube.	Pump tube is crashed.	Check tube with the naked eye.	Replace the printer mechanism or pump unit.
	Capping unit is faulty.	Check capping rubber with the naked eye.	Replace the printer mechanism or capping unit.
	Tube is projecting from cap.	Check with the naked eye whether tube is projecting from cap.	Connect the tube correctly.
	Pump tube is entangled in the pump unit.	When cap assembly slides up completely, check whether there is a small slack in pump tube between cap assembly and pump unit.	Remove the entangled pump tube carefully, correct the tube condition and connect it to the cap assembly.
Ink is not absorbed from head to cap.	Dirt on cap	Check whether any foreign matter is adhering to cap.	Remove foreign matters from the cap and if the cap is damaged, replace it with a new one.
	Faulty slide-up of cap	Check whether two compression springs are set on cap assembly.	Set the compression springs on the cap assembly.

☐ Faulty carriage operation

Table 3-6. Diagnostics when carriage action is abnormal

Condition	Cause	Check Point	Remedy
When power is turned on, carriage operation is abnormal.	There is an obstacle in CR shift area.	Check with the naked eye whether there is an obstacle.	Remove the obstacle.
	CR lock is not released.	Check that change lever is in the front of printer.	Return the change lever to the back of printer by tweeters or a small driver.
		Check whether the CN12 connector and coil resistance of the PF motor are as specified. See Table 3-21 "Motor Resistance and Check Point" *(p 35)*.	Connect the PF motor to CN12 on the main board. Replace the printer mechanism or PF motor.
		Check whether any gear is damaged on the torque transmission route of PF motor.	Replace the damaged gear with a new one.
	Faulty CR motor	Check whether the internal coil resistance is just as specified and whether the harness is connected properly. See Table 3-21 "Motor Resistance and Check Point" *(p 35)*.	Replace the CR motor.
Abnormal carriage operation during printing	Carriage does not move smoothly.	Operate the carriage by hand and check whether carriage moves smoothly.	Clean the CR guide shaft and lubricate.
		Check tension of timing belt.	Adjust tension or replace the belt.
		Check whether there is an obstacle in carriage route.	Remove the obstacle.

☐ Printing is not carried out correctly.

Table 3-7. Diagnostics when printing is erratic

Condition	Cause	Check Point	Remedy
Carriage moves correctly but printing is not normal.	Head FFC is not connected properly.	Check whether Head FFC is connected properly to CN13 and CN14 of main board.	Connect the FFC correctly.
	Inside of FFC is not connected properly.	Check FFC by tester.	Replace the FFC.
	Faulty ink cartridge	Set new ink cartridge and execute test printing.	Replace the ink cartridge.
	Faulty head unit	Repeat cleaning and test printing alternately several times.	Replace the head unit.
	Faulty head cleaner	Check whether dust is adhering to head cleaner.	Clean or replace the head cleaner.

☐ Faulty print

Table 3-8. Diagnostics when printing is abnormal

Condition	Cause	Check Point	Remedy
Faulty printing occurs at specific dots.	Head surface is dirty. (Dot missing occurs)	Repeat cleaning and test printing alternately several times.	Clean with a swab fixed to a stick.
	Faulty head FFC	Check whether head FFC is damaged.	Replace the head FFC with a new one.
	Faulty head unit	Repeat cleaning and nozzle checking alternately several times.	If the condition is not improved even after cleaning, replace the head.
	Capping porous pad is in contact with head surface.	Check capping porous pad with the naked eye.	Replace the capping porous pad, if its shape is deformed or it is damaged.
Sometimes dots are missing.	Head surface is dirty. (Dot is missing occurs)	Repeat cleaning and nozzle checking alternately several times.	Clean with a swab fixed to a stick.
	Inside of FFC is not connected properly.	Check FFC by tester.	Replace the head FFC.
	Head FFC is not connected.	Check whether Board and Carriage FFC are connected.	Connect the FFC correctly.
	Faulty Head unit.	Execute cleaning several times, and Check nozzle.	If the condition is not improved even after cleaning, replace the head.
	Faulty ink cartridge.	Set new ink cartridge and check nozzle.	Replace the ink cartridge.
Black points or dots are printed.	Head FFC is not connected.	Check whether Board and Carriage FFC are connected.	Connect the FFC correctly.
	Faulty head unit	Check connection with head FFC.	If connection with the FFC is not faulty, replace the head.
Vertical line is not straightly lined.	Bi-D adjustment has not been made.	Make Bi-D adjustment.	Refer to “ Adjustment” *(p62)*

Table 3-8. Diagnostics when printing is abnormal (continued)

Condition	Cause	Check Point	Remedy
White line appears in output data.	Dirt is adhering to CR guide shaft.	Check whether dirt is adhering to the surface of CR guide shaft.	Clean the surface of CR guide shaft with a dry and soft cloth.
	Faulty CR guide shaft.	Check that CR guide shaft is steadily installed in the designated position. Check that CR guide shaft surface is flat.	Reinstall the CR guide shaft on the mounting slats (wing boards) on both sides of the frame, and fix it with the rod spring. Replace the CR guide shaft with a new one.
	Faulty slide operation of Carriage.	Check whether sufficient oil is remaining on the surface in the carriage slide area on the Paper Eject Frame.	Clean the surface in the carriage slide area and apply a specified amount of G-26. Refer to “ Maintenance” *(p79)*
	Paper feeding route is dirty.	Check whether PF roller is dirty.	Clean the surface of the PF roller carefully with a soft brush.
	Damaged gear	Check whether the following parts are not damaged. • Combination gear16, 21.6 • Combination gear 11.6, 36.8 • Spur gear 73.6 • Spur gear 25.6	Replace the damaged part with a new one.
	Platen gap is not correct.	Adjust platen gap.	Refer to “ Adjustment” *(p62)*
	As head surface is dirty, dot jet direction is slanting.	Repeat cleaning and test printing alternately several times.	Clean with a swab fixed to a stick.
		Check whether dust is adhering to head cleaner.	Clean or replace the head cleaner.
	Faulty ink cartridge	Set new ink cartridge and execute test printing.	Replace the ink cartridge.
	Faulty head unit	Clean several times, and execute test printing.	Replace the head unit.

☐ Faulty paper loading

Table 3-9. Diagnostics when feeder is abnormal

Condition	Cause	Check Point	Remedy
Paper is not loaded.	Paper loading roller worn	Check whether paper loading roller rotates when paper feeding is not operating. Check whether paper loading roller is not slipping during paper feeding. Check that Micro Pearl or oily substance is not adhering to the paper loading roller	Clean the paper loading roller with the cleaning sheet. If this cleaning does not work to improve the condition, replace the paper loading roller. In order to remove Micro Pearl from the surface of LD roller, install the cleaning sheet up side down inside ASF. Grasp the upper end of the sheet steadily and try paper loading from printer driver. In order to remove oily substance, staple a cloth soaked in alcohol to a post card and clean the roller by the same method.as above. Check whether the gears for driving the PF roller are engaged correctly.
	Faulty operation of ASF hopper	Check ASF hopper operation with the naked eye.	Replace the ASF.
	Faulty clutch mechanism	Check whether clutch mechanism is damaged.	Replace the clutch mechanism with a new one.
Multiple sheets of paper are always drawn in	Paper Return (preventive multiple feeding mechanism) does not operate correctly.	When paper is loaded, check whether Paper Return is correctly operating inside the ASF.	Reassemble the torsion spring 25.7 inside the ASF frame.
Paper is loaded even without print job	Faulty operation of ASF hopper	Check whether the tip of change lever is damaged. Check whether compression spring 1.47 is not off the change lever.	Replace the change lever with a new one. Set the compression spring 1.47 on the change lever correctly.

☐ Faulty paper ejection

Table 3-10. Diagnostics when paper ejection is abnormal

Condition	Cause	Check Point	Remedy
Paper is jammed on the way of paper ejection.	Faulty installation of Star Wheel Roller	Check that Star Wheel Roller is set on paper eject frame.	Remove the jammed paper, set the Star Wheel Roller in the paper eject frame steadily. If the hook of the Hook Roller is damaged, replace it with a new one.
	Faulty operation of Paper Eject Roller	Check whether Paper Eject Roller rotates correctly.	Check whether the gears for driving the Paper Eject Roller are engaged correctly.
Paper is ejected without being printed.	Faulty HP/PE sensor	Check whether CN10 Connector is not disconnected from HP/PE sensor cable on main board or sensor.	Connect CN10 connector cable to CN10 on the main board. Replace HP /PE sensor with a new one.

☐ Printer stops during initialization

Table 3-11. Diagnostics when printer stops during format

Condition	Cause	Check Point	Remedy
Printer error is indicated.	Faulty PE sensor	Check PE sensor signal level. (Refer to Table 3-22 “Sensor Check” on page -35)	Replace the PE sensor
	Faulty CR HP sensor	Check CR HP sensor signal level. (Refer to Table 3-22 “Sensor Check” on page -35)	
	Head FFC is not connected properly.	Check whether Head FFC is connected properly.	Connect the Head FFC
	Faulty CR motor	Check whether CR motor cable is connected properly.	If there is no problem with cable connection, replace the CR motor.
		Check whether the internal coil resistance is just as specified and whether the harness is connected properly. See Table 3-21 “Motor Resistance and Check Point” *(p 35)*.	Replace the CR motor.
	Faulty PF motor	Check whether PF motor cable is connected properly.	If there is no problem with cable connection, replace the PF motor.
		Check whether the internal coil resistance is just as specified and whether the harness is connected properly. See Table 3-21 “Motor Resistance and Check Point” *(p 35)*.	Replace the printer mechanism or PF motor.
	CR lock is not undone.	Check whether no gear is damaged in the PF motor torque transmission route.	Replace the damaged gear with a new one.

3.4 Troubleshooting for Scanner

This section describes repair / service for the Scanner mechanism. In troubleshooting, first the trouble is identified at the unit level based on the observation. According to the observation as described in Table 3-13, perform the necessary checking by referring to the appropriate table.

☐ Scanner Errors at User Level

Table 3-12. Scanner Errors at User Level

Error	Cause	Remedy
Scanner error	• Lamp has burnt out. • Power is turned on without unlocking the scanner. • The scanner carriage is interfering with any other part.	• Unlock the CR. • Replace the scanner lamp. • Replace the scanner carriage unit. • Remove the obstacle.
Command error	Undefined command is detected.	When correct command is received, error status is cancelled. Turn the power off once and then turn it on again.
Scanner open	Scanner cover is open.	Close the cover.

☐ Observation of Trouble and Reference for Remedy

Table 3-13. Observation of Trouble and Reference for Remedy

Observation	Description of Trouble	Reference for Remedy
Even with power turned on, the machine does not operate.	The machine does not operate for initialization.	Table 3-14
"Fatal error" occurred. Indication error occurs and it is not cleared even after power is turned off once and then turned on again.	CR unit does not operate.	Table 3-15
	CR unit operates but error is indicated.	Table 3-16
	The fluorescent lamp does not turn on.	Table 3-17
Picture is not read clearly.	Picture is not read clearly.	Table 3-18
"Communication error". Indication error occurs and when communication with the host is tried again, "Communication error" recurs.	USB interface error	Table 3-19

☐ Scanner does not operate for initialization

Table 3-14. Scanner does not operate for initialization

Cause	Check Point	Yes/No	Remedy
Connector is disconnected.	1. Check all connectors for disconnection?	Yes	Connect the disconnected connector.
		No	Replace the main board.

☐ Carriage unit does not operate

Table 3-15. Carriage unit does not operate

Cause	Check Point	Yes/No	Remedy
Connector CN13 and CN14 on main board is disconnected.	1. Connector CN13 and CN14 on main board is disconnected?	Yes	Connect the connector.
Faulty carriage moving mechanism	1. Grease is applied properly?	No	Apply grease at designated point (Refer to "Maintenance" on page -79)
	2. Does CR motor operate when power is turned ON with upper case of Scanner removed? 2. Does CR unit move with CR motor removed?	No	Check the carriage moving mechanism, replace the relevant parts or remove and reinstall them.
Faulty CR motor	1. Disconnect connector CN11 on main board and measure with a tester the coil resistance between pins 2 and 4 and between 1 and 3 on motor side. See Table 3-21 "Motor Resistance and Check Point" *(p 35)*	No	Replace the CR motor
Defective main board	-	-	Replace the main board

☐ Carriage operates but error indicated

Table 3-16. Carriage operates but error indicated

Cause	Check Point	Yes/No	Remedy
Upper case of scanner is removed.	1. Upper case of scanner is removed.?	Yes	Install the upper case.
Defective main board	-	-	Replace the main board.
Defective CR HP sensor	-	-	Replace the CR HP sensor.

☐ Fluorescent lamp does not turn on

Table 3-17. Fluorescent lamp does not turn on

Cause	Check Point	Yes/No	Remedy
Connector CN4 on main board is disconnected.	1. Connector CN4 on main board is disconnected?	Yes	Connect the connector CN4 on the main board.
Connector of CCD module is disconnected.	1. Connector of CCD module is disconnected?	Yes	Connect the connector on the CCD module.
Fluorescent lamp is not set correctly in connector on inverter board.	1. Fluorescent lamp is not set correctly in connector on inverter board?	No	Set the lamp correctly on the inverter board.
Defective lamp	1. Lamp turns on after replaced?	Yes	Replace the CCD module.
Defective inverter board	1. Inverter board is normal after replaced?	Yes	Replace the CCD module.
Defective main board	-	-	Replace the main board.

☐ Picture can not be read clearly

Table 3-18. Picture can not be read clearly

Cause	Check Point	Yes/No	Remedy
Dirt on mirror inside CR unit	1. Picture can be read clearly after mirror is cleaned?	No	Clean fluorescent lamp surface.
Defective CCD module	-	-	Replace the CCD module.
Defective main board	-	-	Replace the main board.

3.5 I/F Concerned Troubleshooting

This section describes the failure diagnosis on USB Interface, Memory Card Slot.

☐ USB Interface error

Table 3-19. USB Interface error

Cause	Check Point	Yes/No	Remedy
Host PC does not support Windows 98 essentially.	1. On Windows, open "My computer" → "Property" → "Device manager". "Universal serial bus controller" is effective?	No	Change the host.
Printer driver is not installed correctly.	1. On Windows, open "My computer" → "Property" → "Device manager". Printer driver is not installed in "Other devices"?	Yes	Delete the driver and install it again according to operation manual.
Defective USB cable	1. Operation is normal if USB cable is replaced?	Yes	Replace the USB cable.
Defective main board	-	-	Replace the main board.

☐ Failure diagnosis concerned with Memory Card Slot

Table 3-20. Failure diagnosis concerned with Memory Card

Cause	Check Point	Resolution method
Driver has not been installed correctly.	1. Confirm that Memory Card can be recognized by single Stylus PHOTO RX500/510.	Temporarily remove the driver, then install it again.
Data has been destroyed.	1. Data on card may be destroyed owing to static electricity.	Confirm that card data is read with PC etc. If it is not read, format the card.
Memory Card is faulty.	1. Confirm that another Memory Card can be recognized.	Use a new Memory Card.
Contact is poor.	1. Confirm that foreign matters etc. are not attached on Memory Card or in slot.	Remove the foreign matters, and clean the contact.
Firmware has abnormality.	-	Upload firmware.
Electric noise etc. has been generated.	1. Confirm that FFC is connected correctly, Ferrite Core is positioned in place, etc. inside printer.	After the confirmation, if they have no abnormality, replace the Main Board.
Main Board is faulty.	1. Confirm that Main Board is not damaged.	Replace the Main Board.

3.6 Troubleshooting for Motors and Sensors

☐ Motor Resistance and Check Point

Table 3-21. Motor Resistance and Check Point

Section	Motor Name	Location	Check Point
Printer	CR motor	CN11 (Main board)	Pin 1 & 3
	PF motor	CN12 (Main board)	Pin 1 & 3, Pin 2 & 4
Scanner	CR motor	CN6 (HP board)	Pin 1 & 3, Pin 2 & 4

☐ Sensor Check

Table 3-22. Sensor Check

Section	Sensor Name	Location	Signal Level	Sensor Status
Printer	PE sensor	CN10 / Pin 1 & 2 Pin 1 & 3	Off: less than 0.7V	No paper
			On: 2.4V and over	There is paper
	PW sensor	CN2 (CR board)	Open	There is paper
			Close	No paper
Scanner	Scanner carriage HP sensor	CN7	Off:	Not at home position
			On:	Within home position zone

CHAPTER

4

DISASSEMBLY AND ASSEMBLY

Download Service Manual And Resetter Printer at http://printer1.blogspot.com

4.1 Overview

This section describes procedures for disassembling the main components of the product. Unless otherwise specified, disassembly units or components can be reassembled by reversing the disassembly procedure.

- WARNING
  Things, if not strictly observed, that could result in injury or loss of life are described under the heading "**WARNING**".
- CAUTION
  Precautions for any disassembly or assembly procedures are described under the heading "**CAUTION**".
- CHECK
  Chips for disassembling procedures are described under the heading "**CHECK POINT**".
- REASSEMBLY
  If the assembling procedure is different from the reversed procedure of the disassembling, the procedure is described under the heading "**REASSEMBLY**".
- ADJUSTMENT REQUIRED
  Any adjustments required after disassembling the units are described under the heading "**ADJUSTMENT REQUIRED**".

When you have to remove any units or parts that are not described in this chapter, refer to the exploded diagrams in the appendix.

Read precautions described in the next section before starting.

4.1.1 Precautions

See the precautions given under the handling "WARNING" and "CAUTION" in the following column before disassembling and assembling the product.

- **Disconnect the power cable before disassembling or assembling the printer.**
  If you need to work on the printer with power applied, strictly follow the instructions in this manual by paying attention in order not to get electric shock.
- **Wear protective goggles to protect your eyes from ink. If ink gets in your eye, flush the eye with fresh water and see a doctor immediately.**
- **Always wear gloves for disassembly and re-assembly to avoid injury from sharp metal edge.**
- **If ink is fitted to skin, flush it out with water and soup. If inflammation is caused to skin, see a doctor.**
- **To protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.**
- **To prevent consumables form explosion or ignite, do not put it near fire or throw it into fire.**
- **If developing fluid or oil are fitted to skin or clothes, remove them completely with waste cloth and wash cleanly with water.**

CAUTION

- **Use only recommended tools for disassembling, assembling or adjusting the printer.**
- **Observe the specified torque when tightening screws.**
- **Apply lubricants and adhesives as specified. (See Chapter 6 for details.)**
- **Make the specified adjustments when you disassemble the printer. (See Chapter 5 for details.)**
- **At assembly, make sure that the ink tube has been installed in the correct position. If it is not in the correct position, ink can leak.**
- **Never remove the ink cartridge from the carriage unless this manual specifies to do so.**
- **When transporting the printer after installing the ink cartridge, be sure to pack the printer for transportation without removing the ink cartridge.**

4.1.2 Tools

Use only specified tools to avoid damaging the machine.

Table 4-1. Tools

Tool Name	Available from	Tool Code
Phillips screw driver #2	EPSON	1080532
Phillips screw driver #1	EPSON	1080530
Tweezers	EPSON	1080561
Hexagonal box driver (opposite side: 5.5mm)	EPSON	1080584
M3 (5.5mm) wrench	EPSON	-
Radio pliers	EPSON	-
Acetate tape	EPSON	1003963
Tension gauge (2000cN)	EPSON	1213123

4.1.3 Screws

Table 4-2. Screws

No.	Description	Appearance
1	CBP-Tite *x* F/Ni	
2	C.C.P-Tite *x* F/Zb	
3	C.B.S. *x* F/Zn	
4	C.C.S-Tiite *x*	
5	C.B.S-Tite *x* F/Zn	
6	C.B.S-Tite (P4) *x* F/Zn	
7	Bind B-Tite sems W2, 2.5x5F/Zb	
8	C.B.(O) SCREW *x* F/Zg	
9	C.B.P-Tite *x* F/Zn	
10	M3 Hexagon nut	

Note : *x*:Screw nominal size x nominal length

4.1.4 Service Dispatch Standard

When this machine is completely repaired and returned to the user, confirm finally according to Check list in Table 4-3.

Table 4-3. Check List

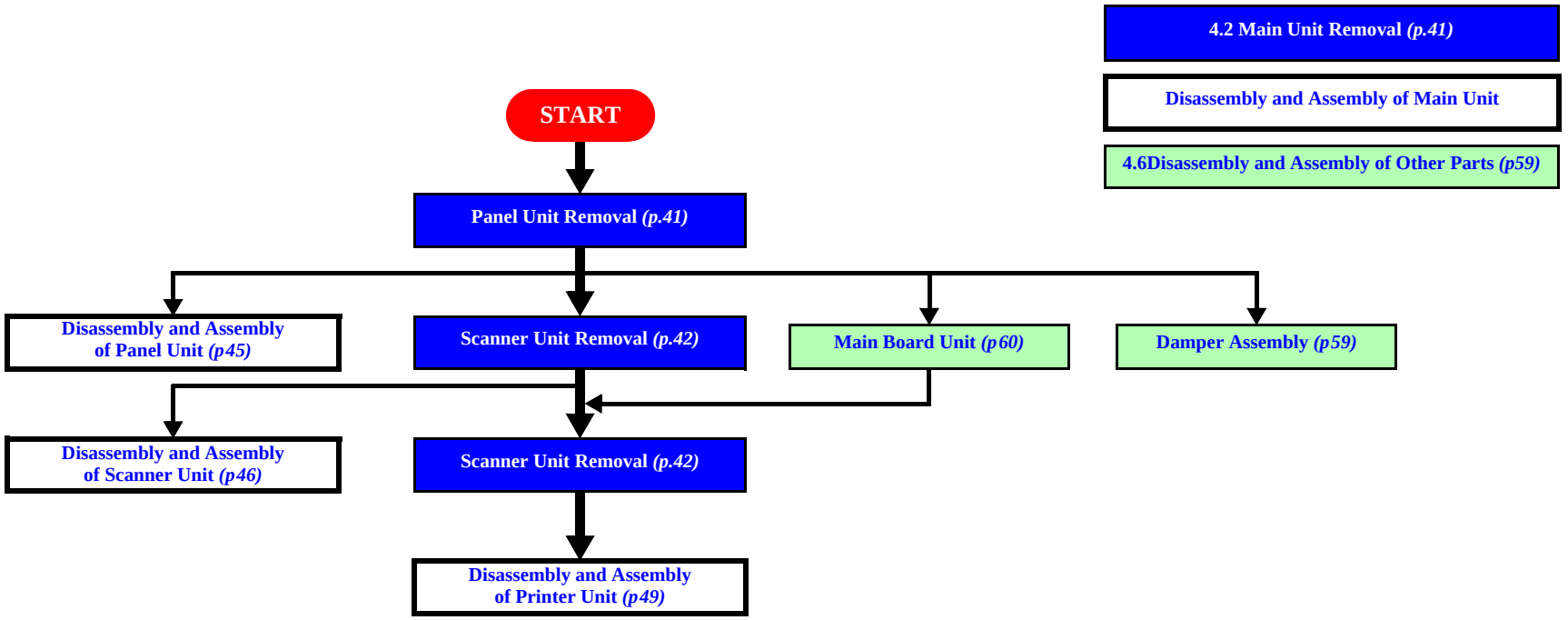
Classification	Part	Check item	Check column
Printer unit	Self test	Operation is normal?	☐OK / ☐NG
	On line test	Print is normally done?	☐OK / ☐NG
	Print head (nozzle check pattern print)	Ink gets out normally from all the nozzles?	☐OK / ☐NG
	CR mechanism	CR smoothly operates?	☐OK / ☐NG
		CR makes abnormal sound during its operation?	☐OK / ☐NG
	Paper loading mechanism	Paper is smoothly loaded?	☐OK / ☐NG
		Paper jam does not happen?	☐OK / ☐NG
		Paper does not warp during paper loading?	☐OK / ☐NG
		Multiple papers are not fed?	☐OK / ☐NG
		Abnormal sound is not heard during paper loading?	☐OK / ☐NG
		There is no foreign matters at paper route?	☐OK / ☐NG
Scanner unit	Mechanism	Glass surface is not dirty?	☐OK / ☐NG
		Alien substance is not mixed in the CR movement area?	☐OK / ☐NG
	CR mechanism	CR smoothly operates?	☐OK / ☐NG
		CR operates together with scanner unit?	☐OK / ☐NG
		CR makes abnormal sound during its operation?	☐OK / ☐NG
	Lamp	Lamp normally turns on and white reflection test is done near home position?	☐OK / ☐NG
On line test	On line test	Operation is normal?	☐OK / ☐NG
Copy	Copy	Local copy is normal?	☐OK / ☐NG
Adjustment	Designated adjustment items	Adjustment condition is suitable?	☐OK / ☐NG

Table 4-3. Check List (continued)

Classification	Part	Check item	Check column
Lubrication	Designated lubrication items	Lubrication is done at designated place?	☐OK / ☐NG
		Lubrication volume is suitable?	☐OK / ☐NG
Function	Version of firmware	The newest version	☐OK / ☐NG
Dispatch packing	Ink cartridge	Ink cartridge is normally installed?	☐OK / ☐NG
	Waste ink porous pad	Remained life of waste ink porous pad is sufficient?	☐OK / ☐NG
	Protection during distribution	Printer CR is in the cap position?	☐OK / ☐NG
		Scanner CR is locked?	☐OK / ☐NG
Others	Attachments	All of attached goods from users are packed?	☐OK / ☐NG

4.1.5 Stylus PHOTO RX500/510 Disassembly

The flowchart below shows step-by-step disassembly procedure. When disassembling each component, refer to the page number shown in the figure.


4.2 Main Unit Removal (p.41)
Disassembly and Assembly of Main Unit
4.6Disassembly and Assembly of Other Parts (p59)
START
Panel Unit Removal (p.41)
Disassembly and Assembly of Panel Unit (p45)
Scanner Unit Removal (p.42)
Main Board Unit (p60)
Damper Assembly (p59)
Disassembly and Assembly of Scanner Unit (p46)
Scanner Unit Removal (p.42)
Disassembly and Assembly of Printer Unit (p49)

Flowchart 4-1. Disassembly Flowchart

CHECK POINT

For disassembly procedure for the main unit, refer to the flow chart in each section.

4.2 Main Unit Removal

4.2.1 Panel Unit Removal

1. Remove a USB cable from the Stylus PHOTO RX500/510 unit.
2. Remove the operation panel from the panel unit.
3. Remove two screws securing the panel unit.
4. Remove the panel unit from the printer.
5. Remove three screws that secure front housing.
6. Remove front housing from the printer.
7. Unhook four locations, and remove the decorative panel from the middle housing.
8. Disconnect a panel harness (CN8) to the panel unit from the main board.
9. Remove a the panel unit from the Stylus PHOTO RX500/510 unit.

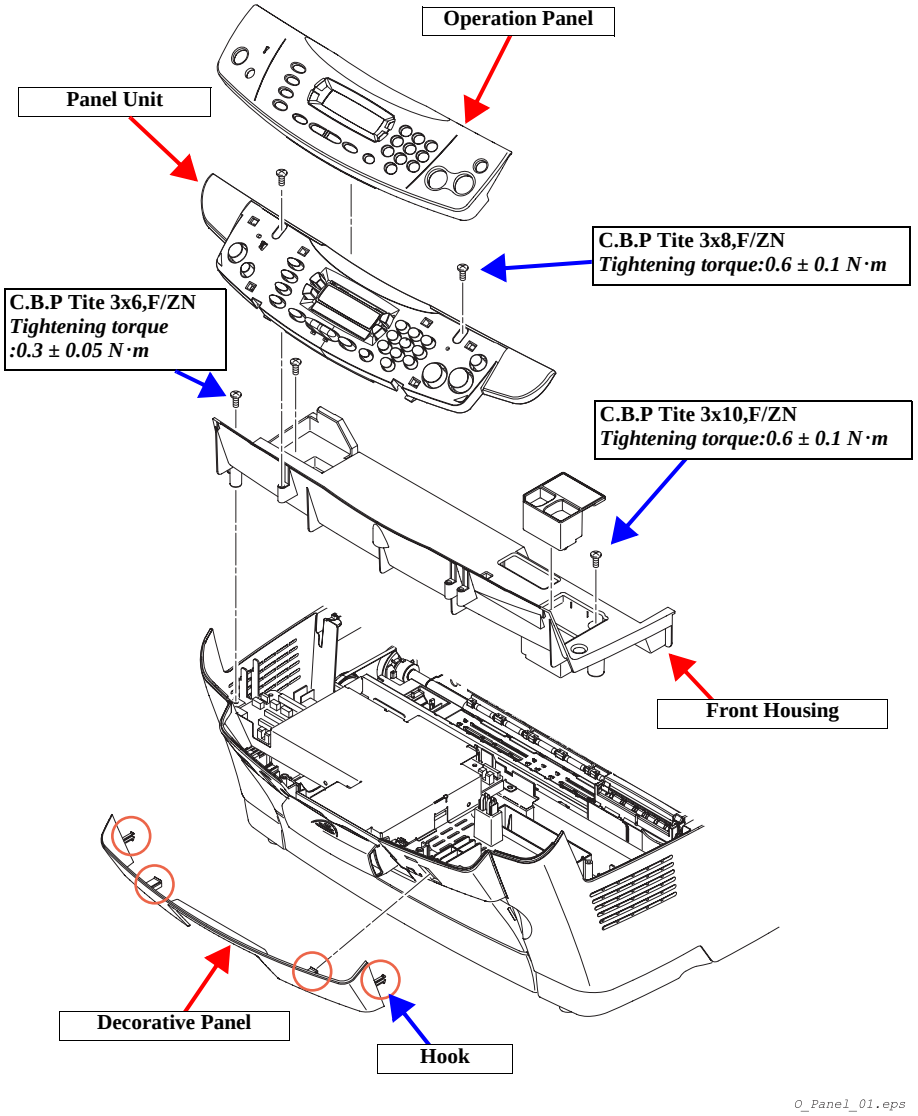


Figure 4-1. Panel Unit Removal

4.2.2 Scanner Unit Removal

1. *Panel Unit Removal. (p41)*
2. Remove one screw that secures the FFC cover.
3. Remove the FFC cover from the middle housing.
4. Remove a TPU cable and a Grounding cable from the printer unit.
5. Remove all main board connectors.
6. Remove ferrite core from the middle housing.
7. Remove two hinge screws that secure the middle housing.
8. Remove the scanner unit upward easily.

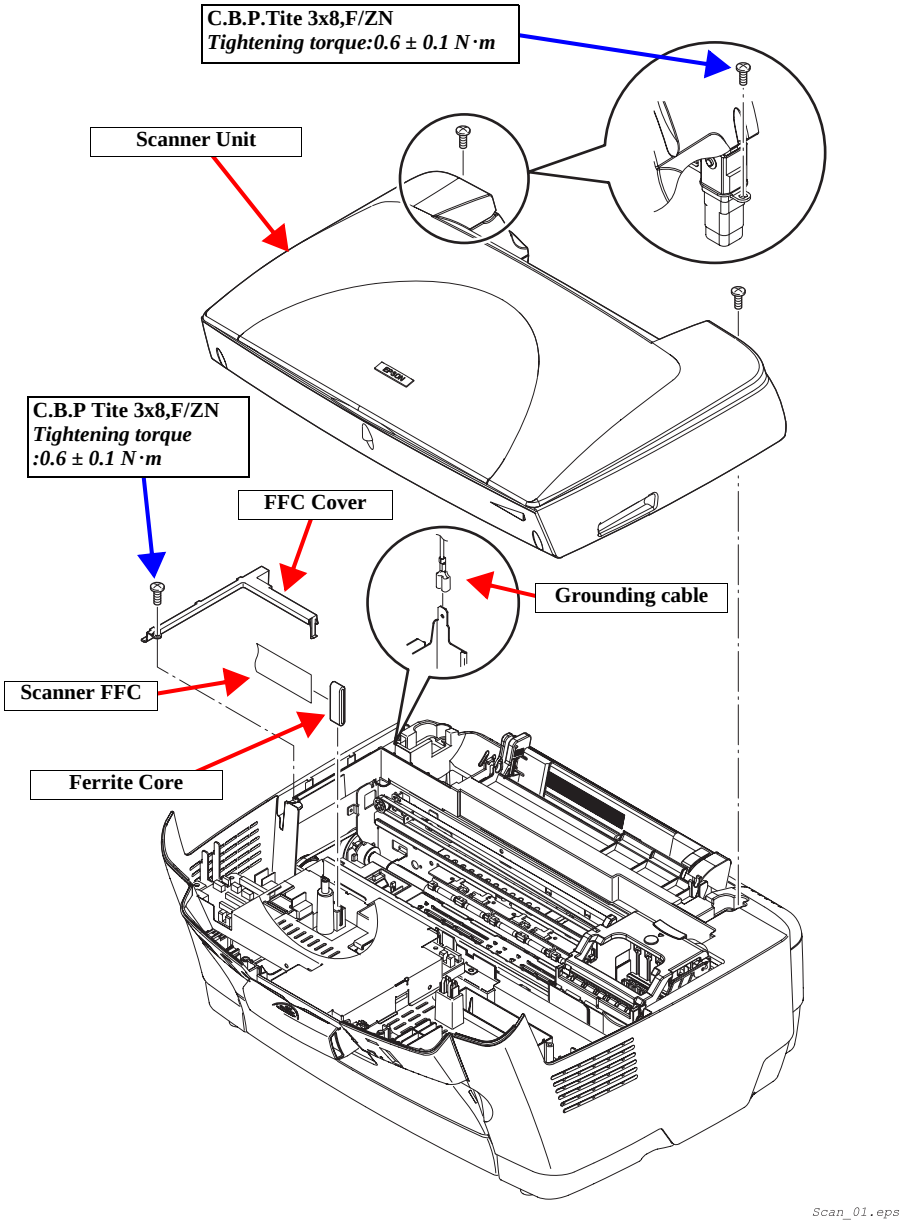


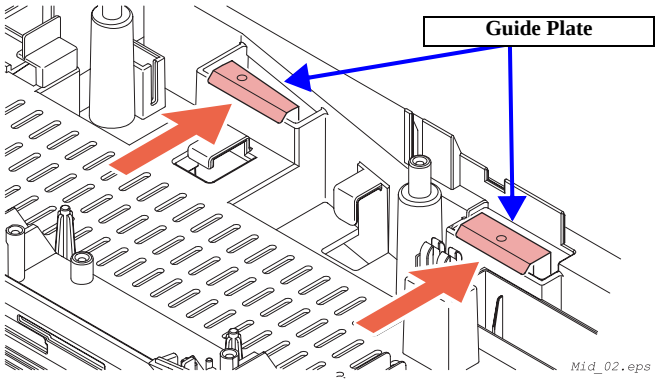
Figure 4-2. Scanner Unit Removal

4.2.3 Middle Housing Removal

1. *Scanner Unit Removal. (p42)*
2. Remove all connectors from the main board.
3. Remove one screw that secures a tube cover, and remove it from the printer unit.
4. Remove four screws that secure the lower housing to the middle housing.
5. Remove the middle housing upwards.

CHECK POINT

Pay attention to the guide plate when removing the middle housing.



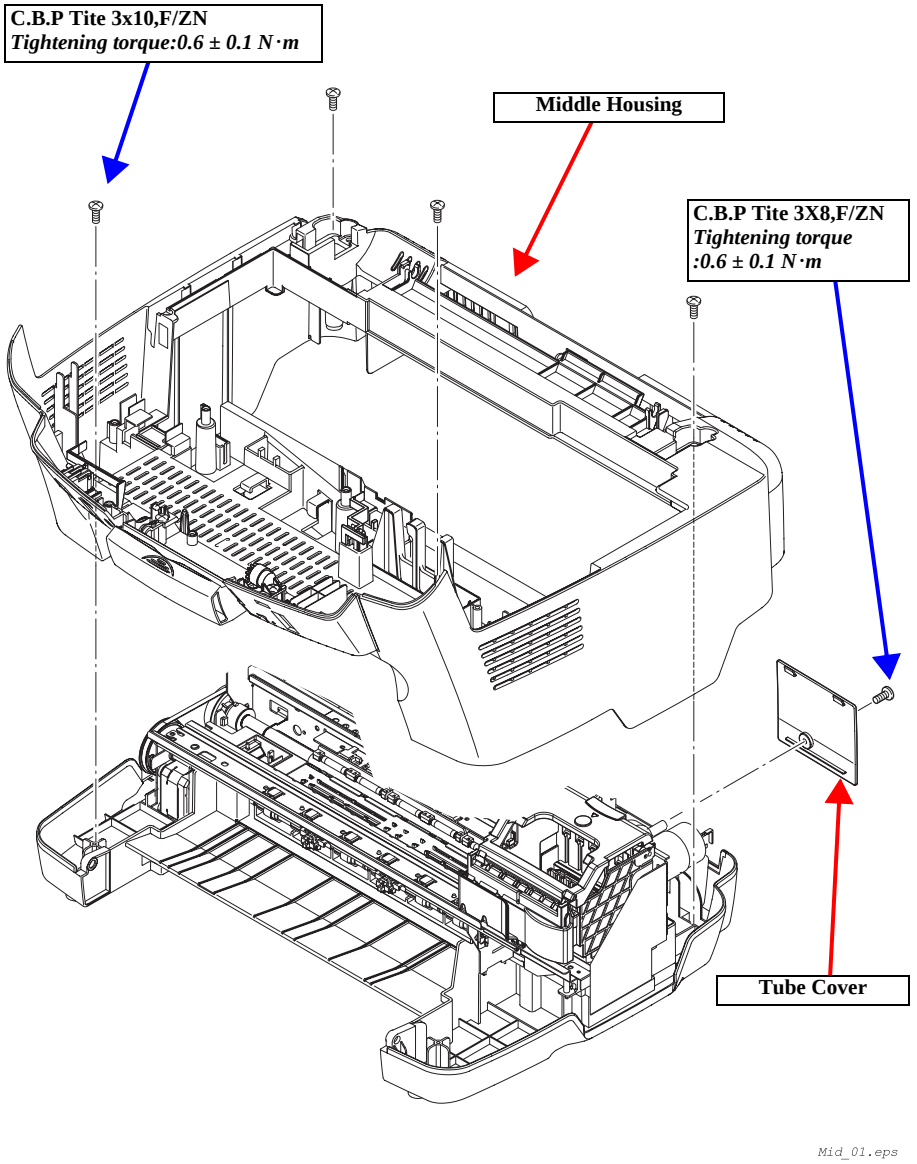
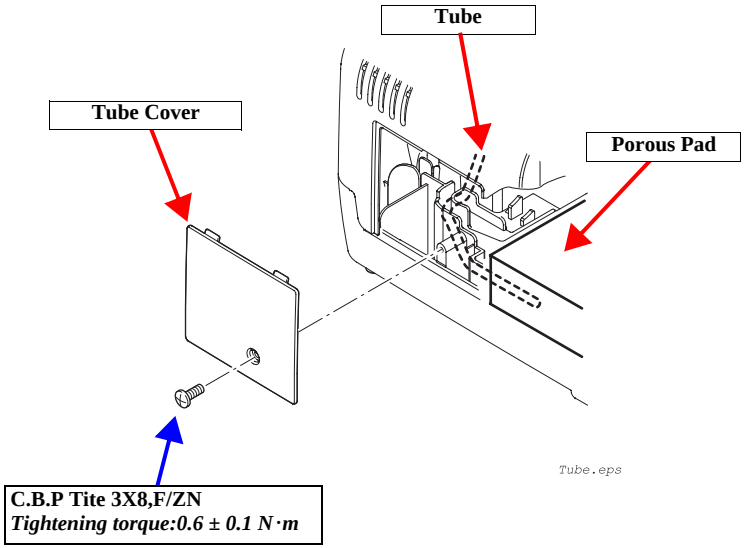


Figure 4-3. Middle Housing Removal

Reassembly

- **Pay attention when handling the connector while installing the middle housing.**
- **After installing the Middle Housing, remove the Tube Cover once and make certain that the tube is inserted into the Porous Pad properly.**

1. **Remove the one screw securing the Tube Cover and remove the Tube Cover.**
2. **Check that the tube is inserted into the Porous Pad properly.**



4.3 Disassembly and Assembly of Panel Unit

4.3.1 Panel Circuit Board Removal

1. *Panel Unit Removal. (p41)*
2. Remove one screw that secures the grounding plate.
3. Remove the grounding plate from the panel shield plate.
4. Remove four screws that secure the shield plate.
5. Remove the panel shield plate from the front middle cover.
6. Disconnect a harness from the panel circuit board.
7. Remove three screws that secure the panel circuit board.
8. Remove the panel circuit board from the middle cover.

CAUTION

Do not touch the switch contacts on the panel circuit board with bare hand; otherwise, contact error can occur.

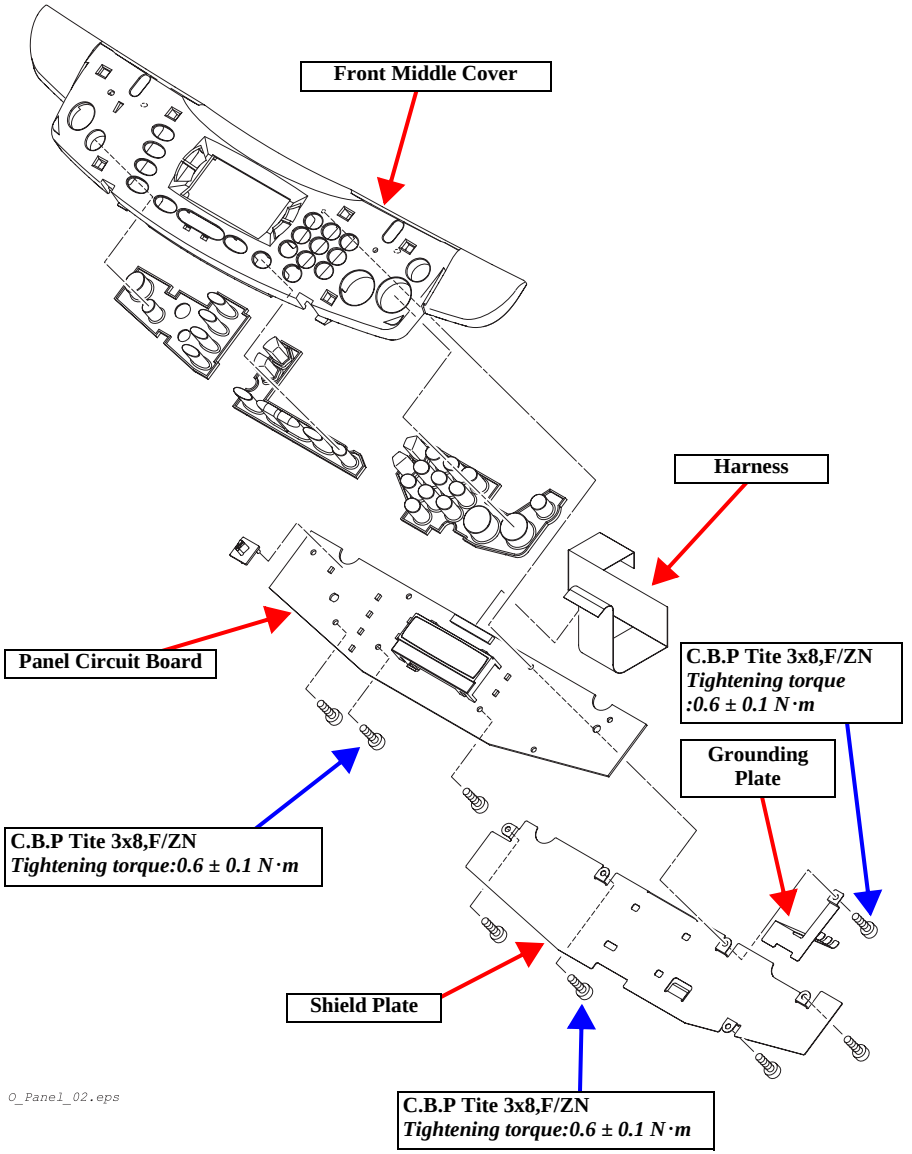
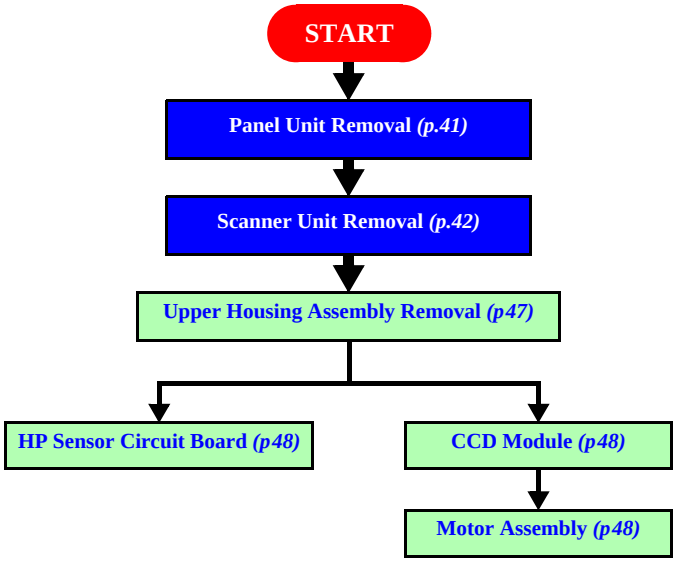


Figure 4-4. Panel Circuit Board Removal

4.4 Disassembly and Assembly of Scanner Unit



Flowchart 4-2. Scanner Unit Disassembly Procedure

CAUTION

- **Perform disassembly and assembly for the scanner unit in an environment free from dust. You are advised to work in a clean room or on a clean bench, if possible.**
- **Ensure that there are no stains or scratches on the document table. Do not touch interior glass panel surface when installing the scanner housing. Handle glass panel surface with care by attaching protective sheet or paper.**

Reassembly

- **Lubrication required. For lubrication, refer to the following section.**
  6.3.2 Lubrication Points of the Scanner *(p81)*

4.4.1 Upper Housing Assembly Removal

1. *Scanner Unit Removal. (p42)*
2. Remove the TPU assembly.
3. Remove four hinge screws.
4. Remove a hinge from the scanner unit.
5. Unlock the carriage.
6. Remove eight screws on bottom of the scanner unit.
7. Unhook two locations that secure the upper housing assembly to the lower housing.
8. Remove the upper housing assembly while positioning the document table up.

Ensure that there are no stains on interior glass panel surface.

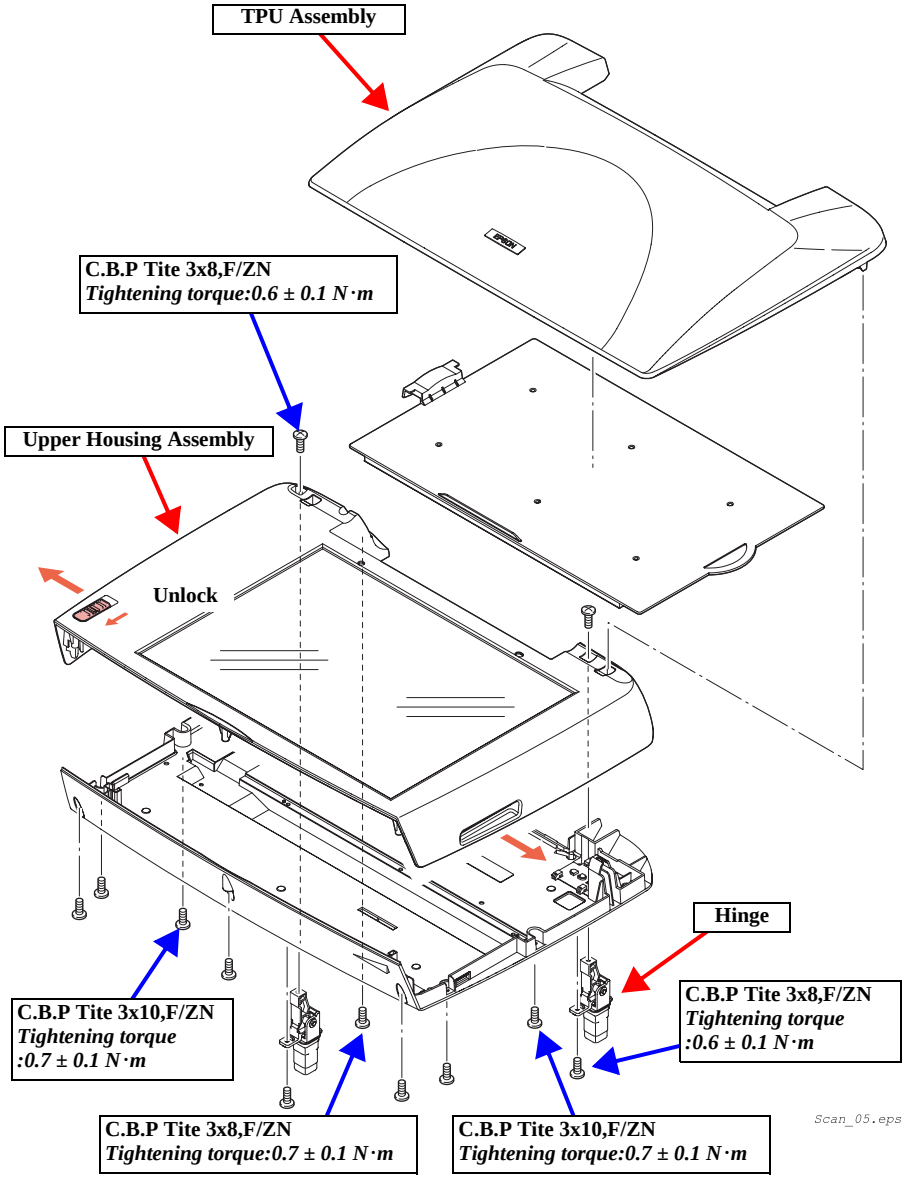


Figure 4-5. Upper Housing Assembly Removal

4.4.2 CCD Module

1. *Upper Housing Assembly Removal. (p47)*
2. Remove a driven pulley from a timing belt by pressing the driven pulley Assembly to loose tension of a timing belt.
3. Remove the CR shaft from lower housing.
4. Remove timing clamp, then remove timing belt from CCD module.

4.4.3 Motor Assembly

1. *Upper Housing Assembly Removal. (p47)*
2. Remove the CCD Module. (p.48)
3. Remove three screws that secure a grounding cable to the motor assembly.
4. Remove a grounding cable and the motor assembly from the scanner lower housing.

4.4.4 HP Sensor Circuit Board

1. *Upper Housing Assembly Removal. (p47)*
2. Remove the Motor Assembly. (p.48)
3. Remove a screw that secures the HP sensor circuit board.
4. Remove the HP Sensor Circuit Board from lower housing.

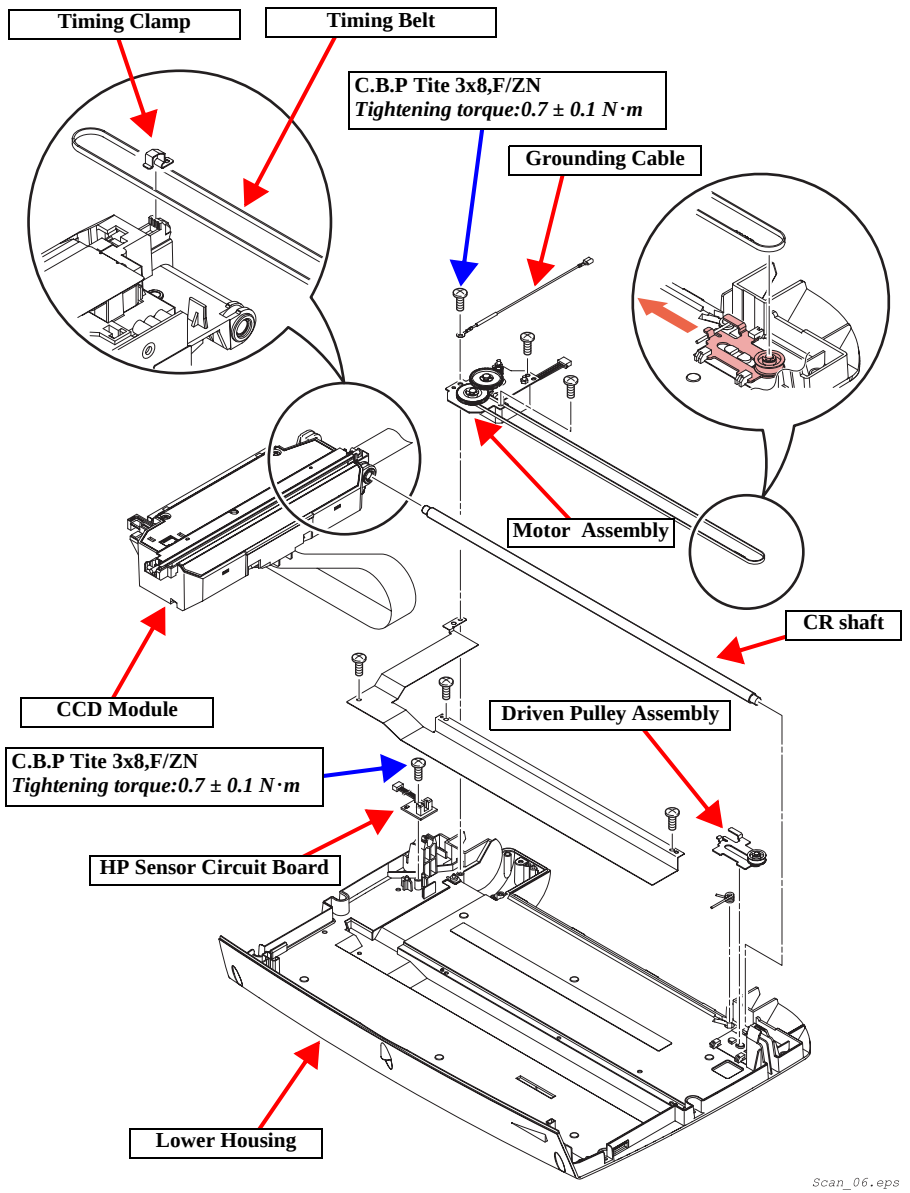
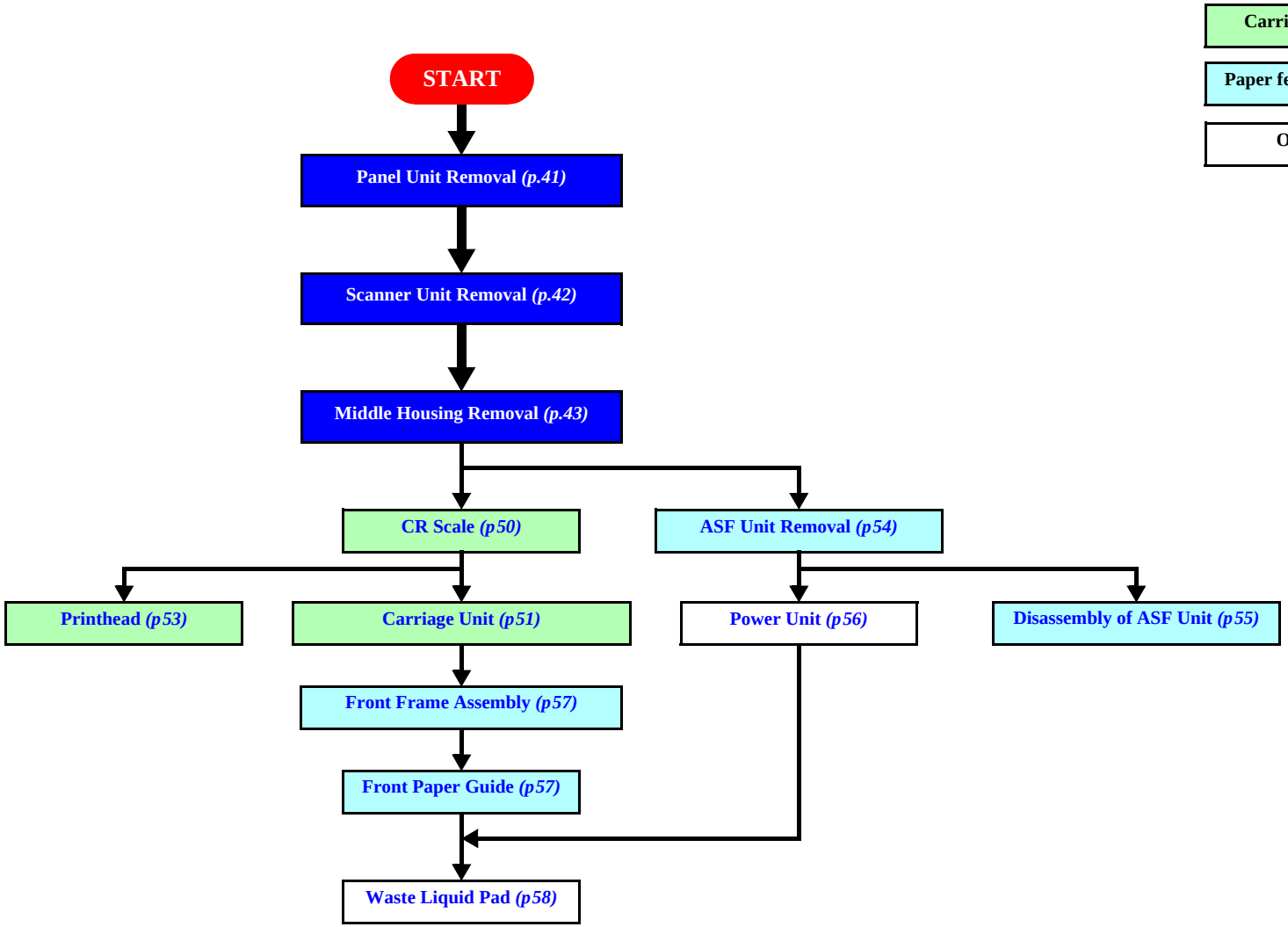


Figure 4-6. Disassembly of Scanner Unit

4.5 Disassembly and Assembly of Printer Unit

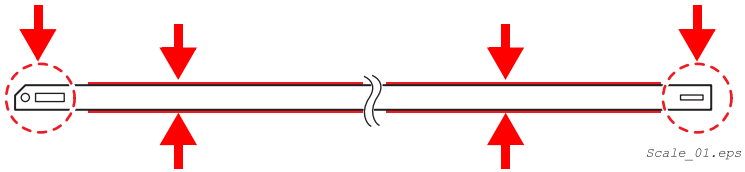


Flowchart 4-3. Disassembly Procedure for Printer Unit

4.5.1 CR Scale

CAUTION

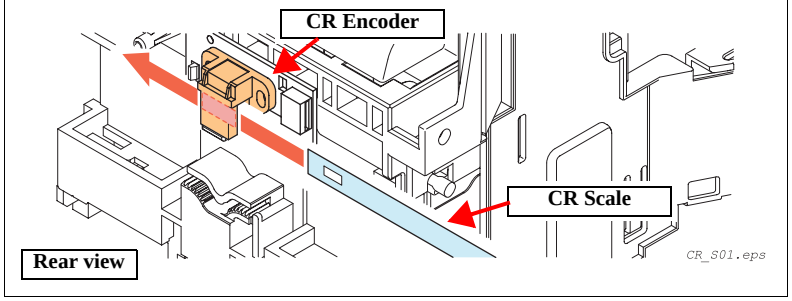
When handling the CR scale, hold both ends, or top and bottom only. Do not touch the reading surface. Pay attention to keeping out of stains or scratches on the reading surface.



1. *Middle Housing Removal. (p43)*
2. Unhook a extension spring to the CR scale on the left side of the printer.
3. Remove the CR scale from the printer frame on the right side of the printer.
4. Pull out the CR scale from the carriage unit to the left.
5. Turn the CR scale to 90 degrees, and remove it along with a pull spring.

Reassembly

Pass the CR scale through the CR encoder located on back of the carriage unit.



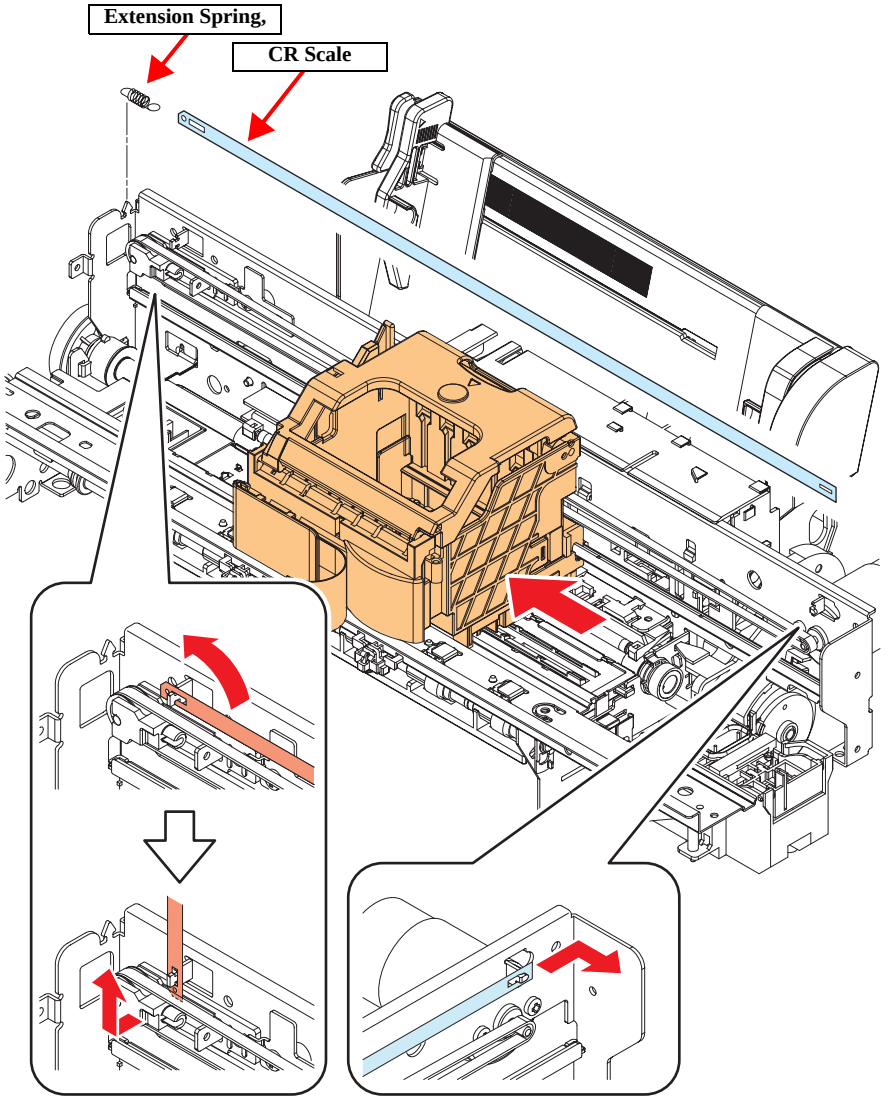


Figure 4-7. CR scale Removal

4.5.2 Carriage Unit

1. *Middle Housing Removal. (p43)*
2. *CR Scale Removal. (p50)*
3. Remove two screws on the left side of the FFC holder, and remove it from the main frame.
4. Remove six screws on the guide plate, and remove it from the printer unit.
5. Remove one screw on the holder stopper, and remove it from the printer unit.
6. Remove a extention spring of the driven pulley holder.

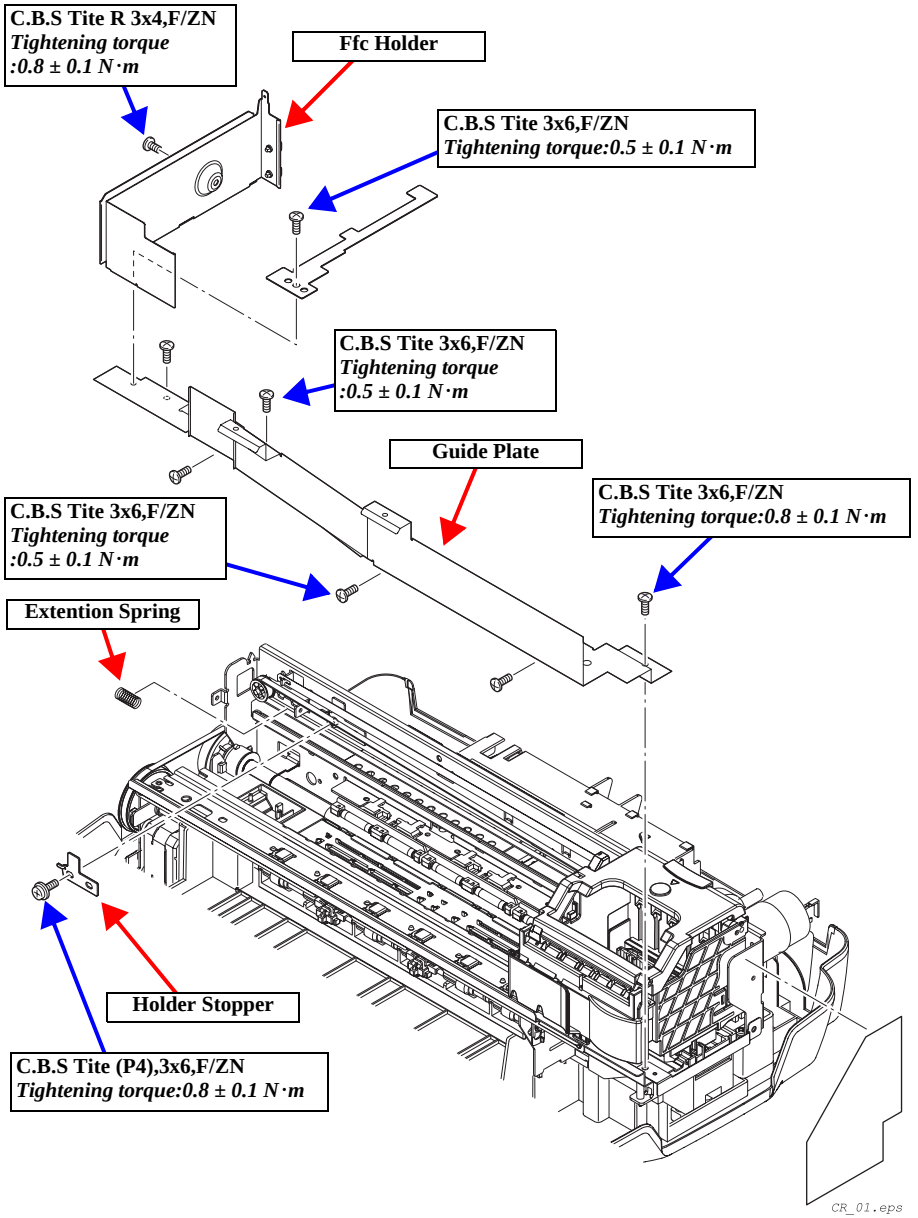


Figure 4-8. Carriage Unit Removal-1

7. Remove the CR belt from the CR motor.
8. Remove a torsion spring from the carriage unit, and remove the carriage lever from right side.
9. Unhook nine locations that secure the carriage unit to the head cable cover, and remove the head cable cover.
10. Unhook two locations that secure holder I/C to the carriage, and shift the holder I/C towards you.
11. Remove the carriage unit from the main frame upward.

Reassembly

■ **Lubrication required. For lubrication, refer to the following section.**
6.3.3 Lubrication Points of the Printer *(p82)*

ADJUSTMENT REQUIRED

After removing the carriage unit, make adjustments referring to the following:

■ **Adjustment Items for Individual Units and Components *(p64)***

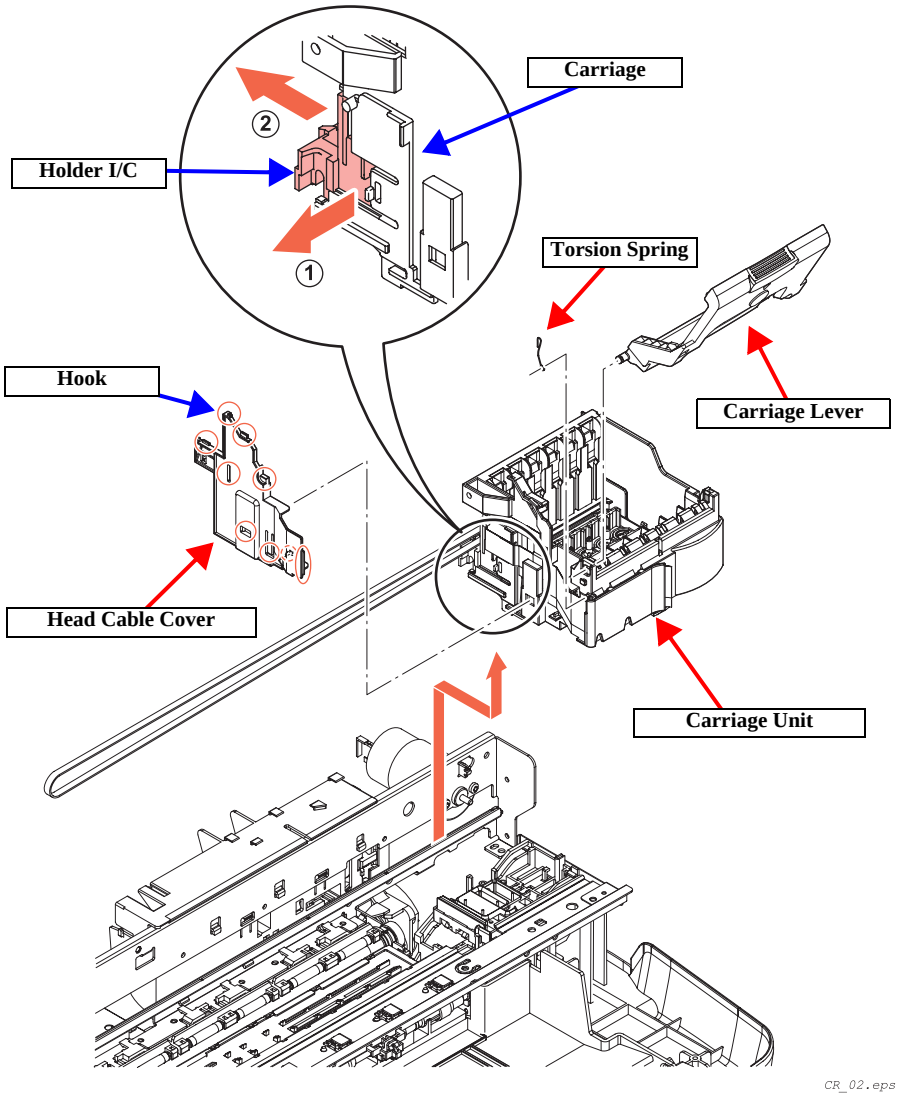


Figure 4-9. Carriage Unit Removal-2

4.5.3 Printhead

1. *Carriage Unit Removal. (p51)*
2. Remove the Head Cable from the CSIC board, then remove the Head Cable from the Holder I/C.
3. Remove the Printhead and Carriage from the Holder I/C.
4. Remove 2 screws that secure the Printhead.
5. Remove the Printhead from the Carriage.
6. Remove the Printhead from the Head Cable.

ADJUSTMENT REQUIRED

After installing the Printhead, make the adjustment, referring to the following:

- **Adjustment Items for Individual Units and Components *(p64)***

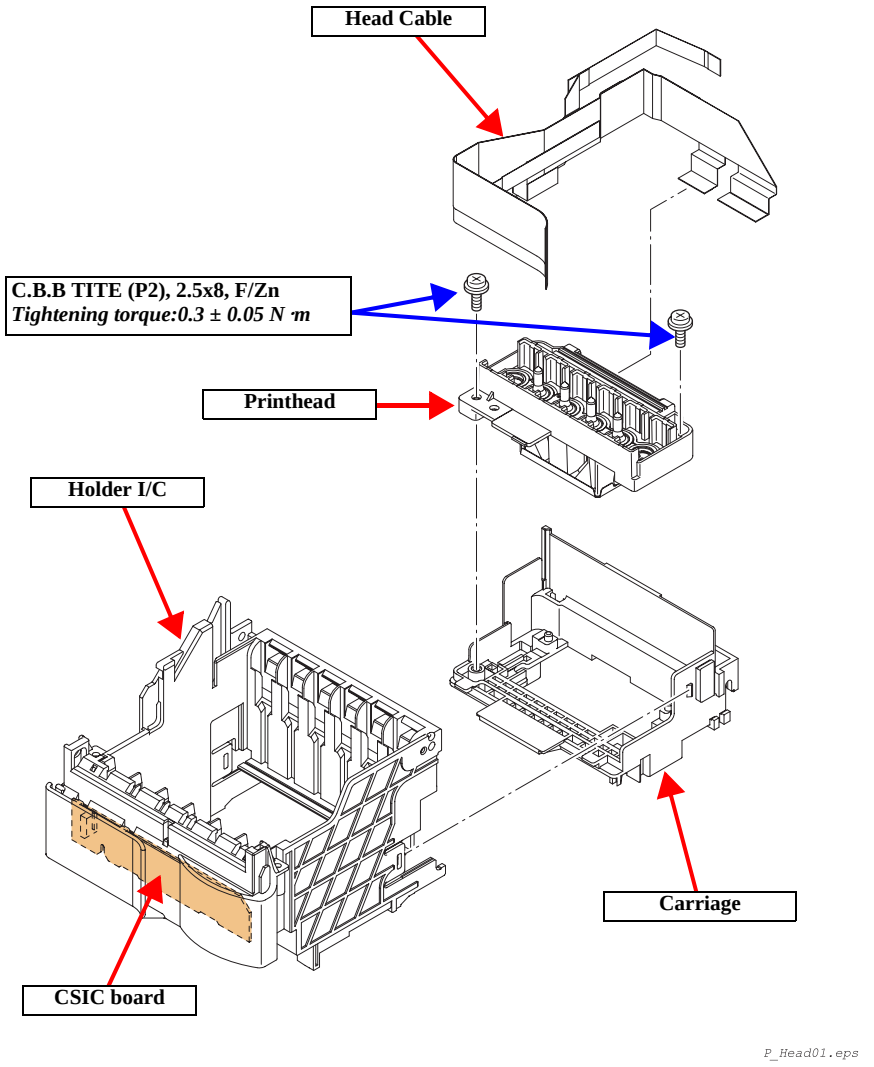


Figure 4-10. Printhead Removal

4.5.4 ASF Unit Removal

1. *Middle Housing Removal. (p43)*
2. Remove three screws that secure the ASF unit.
3. Remove the ASF unit from the main frame upward.

CAUTION

- **Do not touch the LD Pad or Hopper Pad of the ASF Unit.**
- **Do not reuse any scratched pad.**

Reassembly

- **When securing the ASF unit to the main frame, pay attention to the installed location of the LD roller cover.**
- **Lubrication required. For lubrication, refer to the following section.**
  6.3.3 Lubrication Points of the Printer *(p82)*

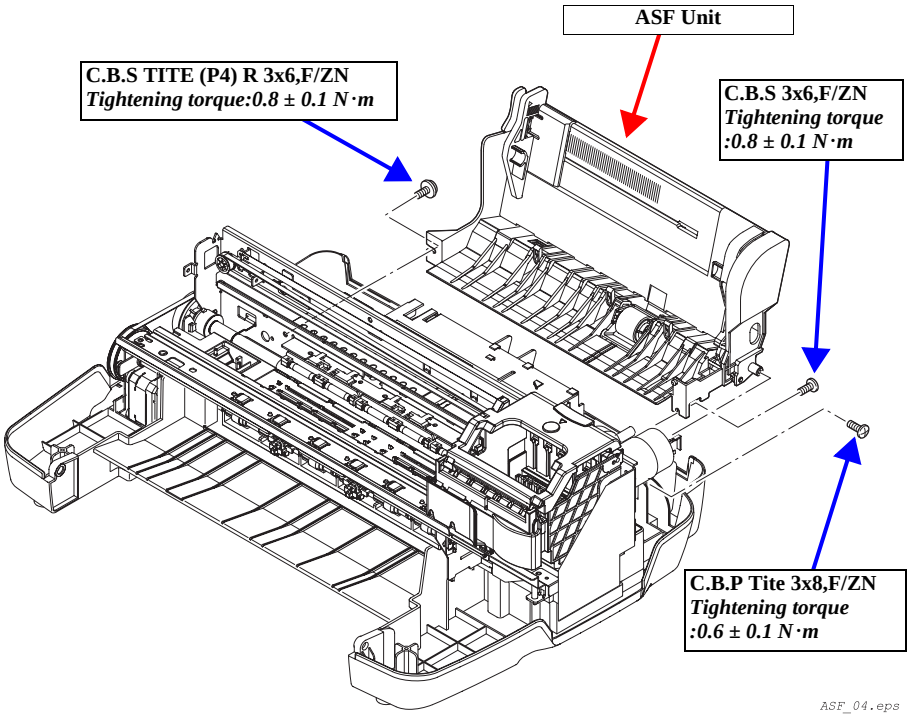


Figure 4-11. ASF Unit Removal

4.5.5 Disassembly of ASF Unit

CAUTION

Several types of spring are used for the ASF unit. Do not loose springs during disassembly and assembly.

1. *Middle Housing Removal. (p43)*
2. *ASF Unit Removal. (p54)*
3. Remove the hopper and compression spring from the ASF unit.

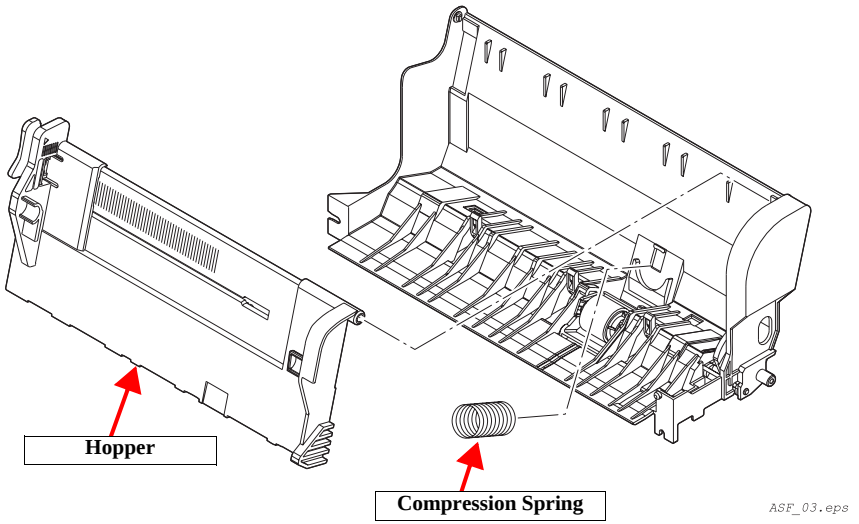


Figure 4-12. Disassembly of ASF Unit-1

4. Remove an extension spring from the ASF unit.
5. Remove the paper return lever from the ASF unit.
6. Remove a compression spring from the ASF unit.
7. Remove the returd holder and returd roller from the ASF unit.

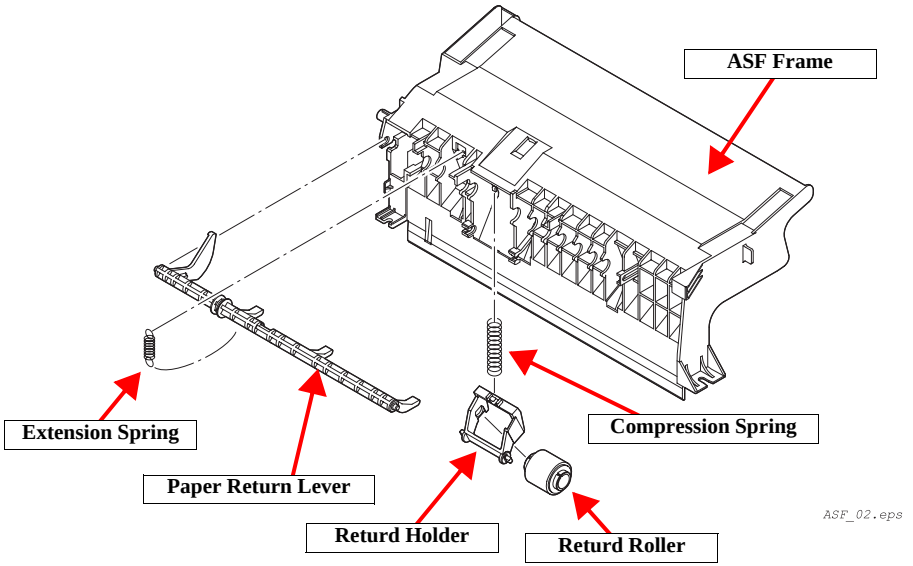


Figure 4-13. Disassembly of ASF Unit-2

4.5.6 Power Unit

1. *Middle Housing Removal. (p43)*
2. *ASF Unit Removal. (p54)*
3. Disconnect both power units and the TPU holder assembly lead from the FFC holder on the left side of the printer.
4. Remove a screw on back of the printer, and remove the TPU holder assembly from the power supply unit.
5. Remove two screws on back of the printer supply unit, and remove the power supply unit from the main frame.

ADJUSTMENT REQUIRED

After replacing the power supply unit, make adjustments referring to the following:

- **Adjustment Items for Individual Units and Components *(p64)***

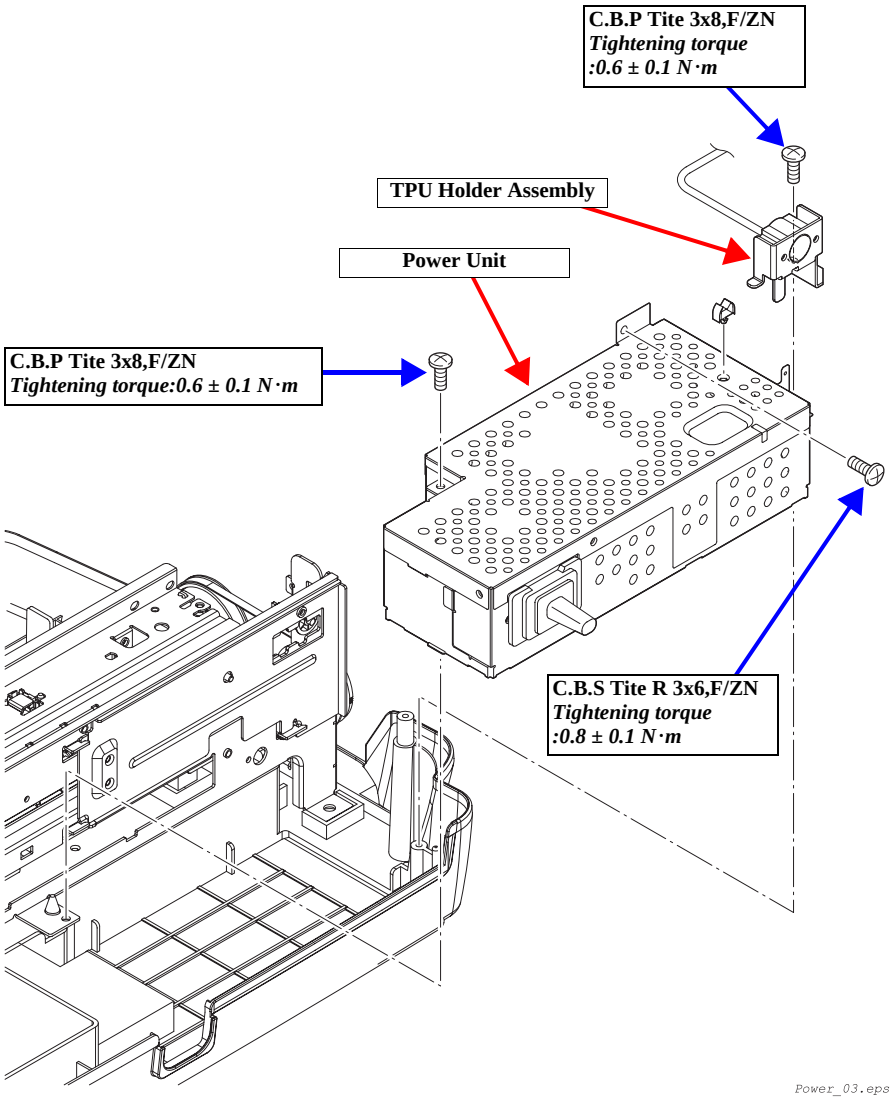


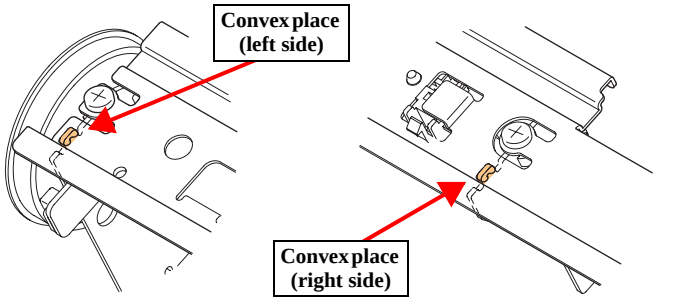
Figure 4-14. Power Unit Removal

4.5.7 Front Frame Assembly

1. *Middle Housing Removal. (p43)*
2. *Carriage Unit Removal. (p51)*
3. Remove 2 screws that secure the Front Frame Assembly.
4. Remove the Front Frame Assembly from the Printer Frame.

Reassembly

- **The Front Frame Assembly shall be set at 2 convex (ìþ) places of the Printer Frame. (Refer to the figure below.)**



- **Lubrication required. For lubrication, refer to the following section.**
  6.3.3 Lubrication Points of the Printer *(p82)*

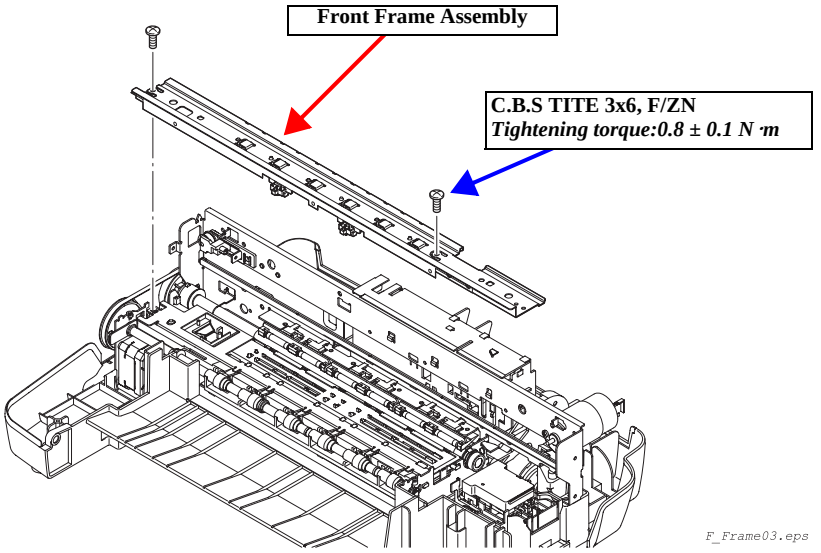


Figure 4-15. Front Frame Assembly Removal

4.5.8 Front Paper Guide

1. Front Frame Assembly Removal. (p57)
2. Remove the Spacer, then remove the Paper Rejection Pulley from the Paper Rejection Roller.
3. Remove the Spacer, then remove the Paper Rejection Roller.
4. Remove one screw, then remove the Front Paper Guide from the Printer Frame.

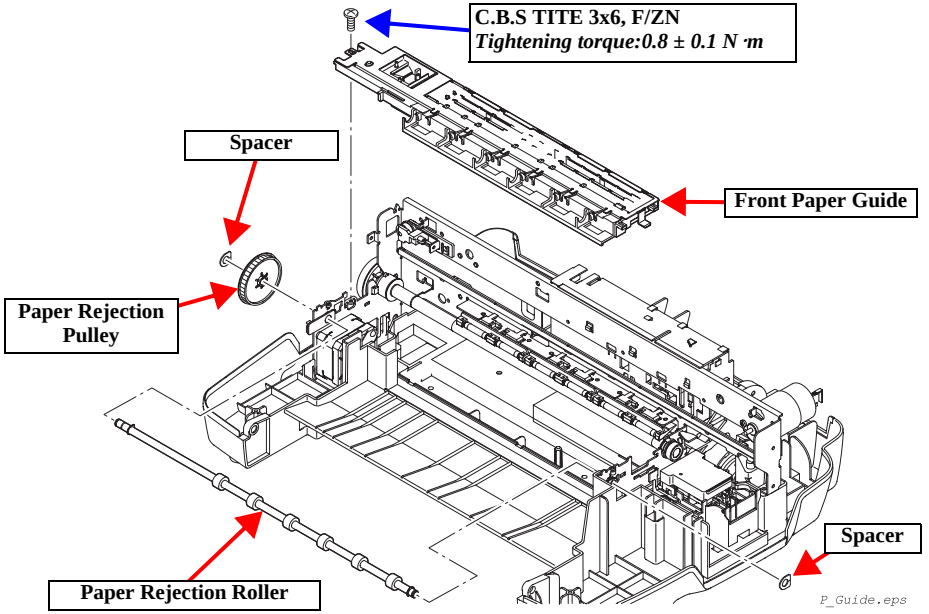


Figure 4-16. Front Paper Guide Removal

4.5.9 Waste Liquid Pad

1. *Power Unit Removal. (p56)*
2. *Front Paper Guide Removal. (p57)*
3. Remove 4 screws that secure the Printer Unit.
4. Remove the Printer Unit from Lower Housing.
5. Replace the Waste Liquid Pad.

ADJUSTMENT REQUIRED

After replacing the Waste Liquid Pad, make the adjustment, referring to the following:

- **Adjustment Items for Individual Units and Components *(p64)***

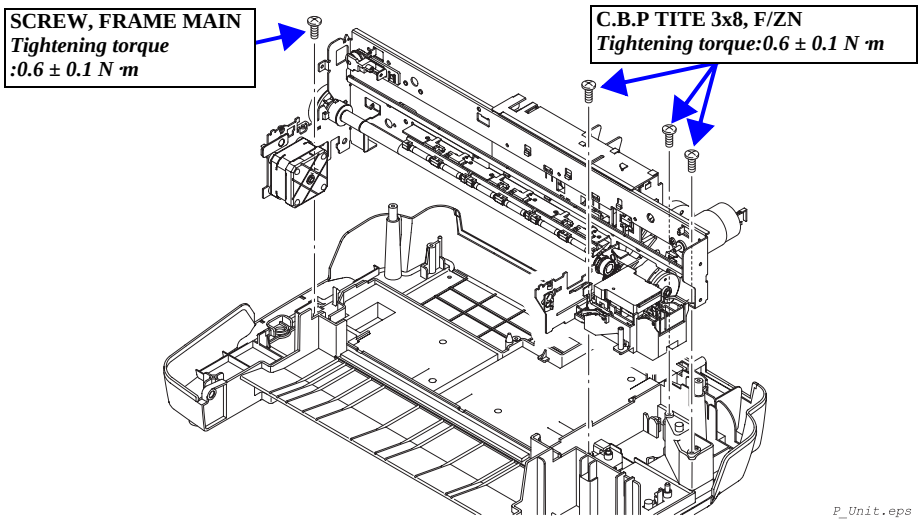


Figure 4-17. Printer Unit Removal

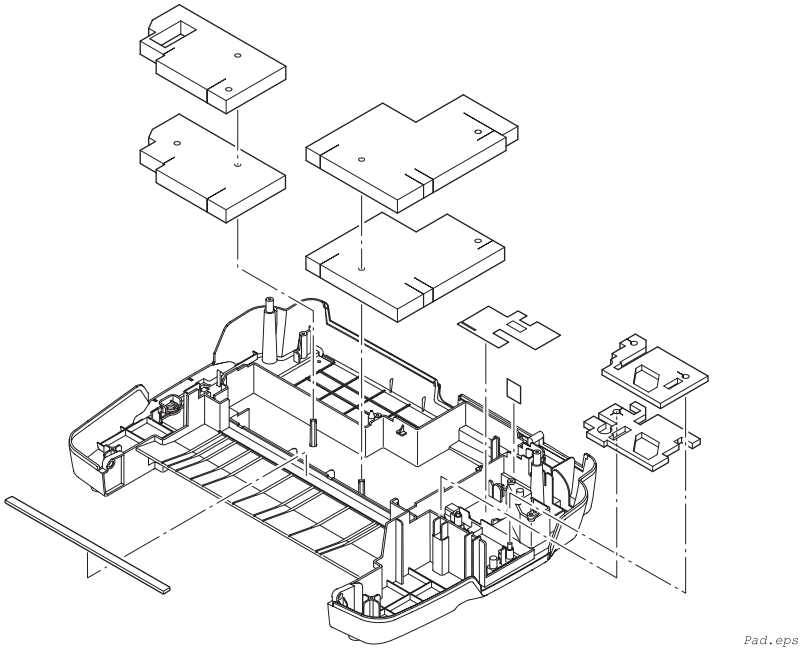


Figure 4-18. Waste Liquid Pad Removal

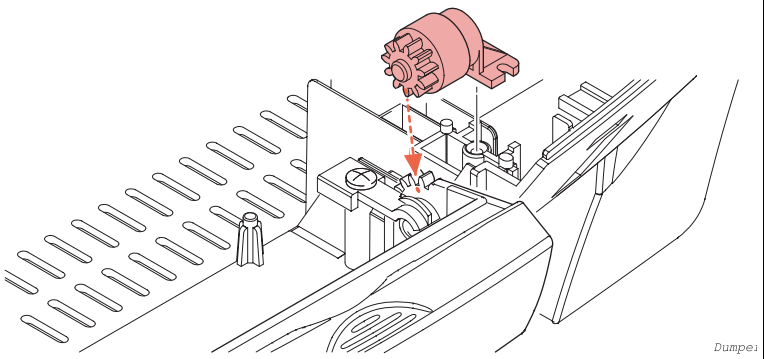
4.6 Disassembly and Assembly of Other Parts

4.6.1 Damper Assembly

1. *Panel Unit Removal. (p41)*
2. *Remove the Main Board Unit. (p.60)* (as needed)
3. Remove a screw that secures the damper assembly, and remove it from the middle housing.

Reassembly

For installing the damper assembly, close the slot cover, and follow the conditions as shown oi the figure below:



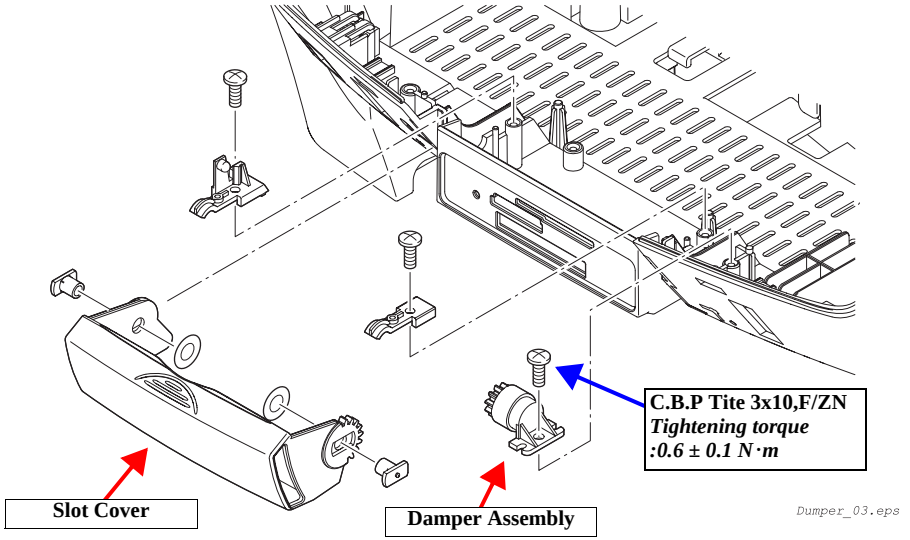


Figure 4-19. Damper Assembly Removal

4.6.2 Stacker

1. *Panel Unit Removal. (p41)*
2. *Scanner Unit Removal. (p42)*
3. *Middle Housing Removal. (p43)*
4. Remove the stacker by sliding forward while pushing projected areas located right stacker.

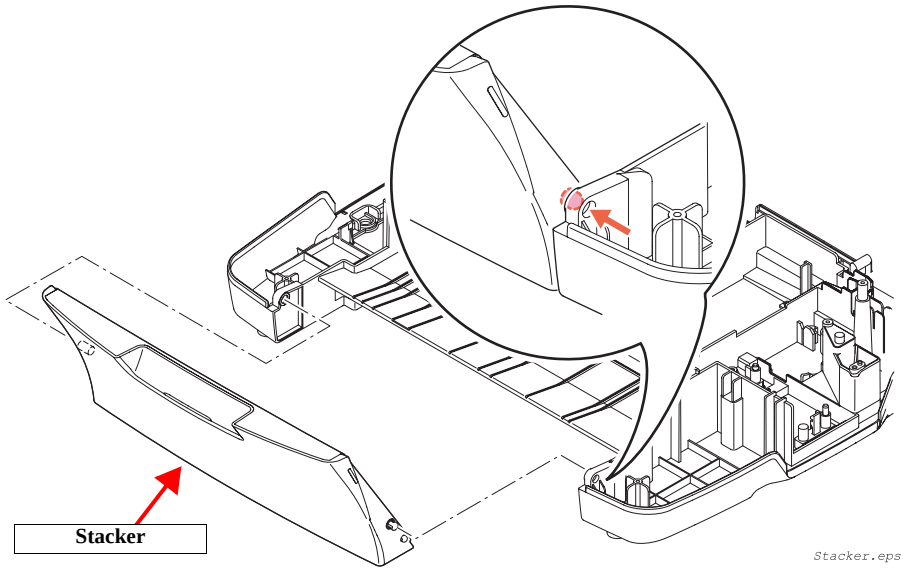


Figure 4-20. Stacker Removal

4.6.3 Main Board Unit

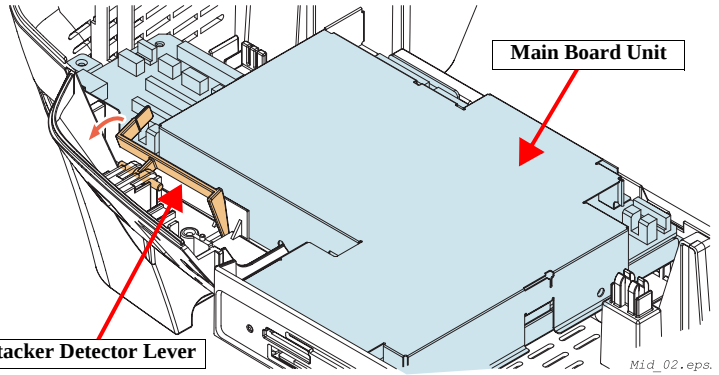
CHECK POINT

If you can read EEPROM on the main circuit board before replacing, repair time can be reduced by backing up adjustment values, and writing in the replaced main circuit board.

1. *Panel Unit Removal. (p41)*
2. Remove the SC detector lever.
3. Remove all connectors and FCC that connect to main circuit board.
4. Remove six screws on the main board unit, and remove it from the middle housing.

CAUTION

Do not touch stacker detector lever when removing.



5. Remove eight screws that secure the upper shield plate.
6. Remove the upper shield plate from the main circuit board.
7. Remove three screws that secure the main circuit board.
8. Remove the main circuit board from the lower shield plate.

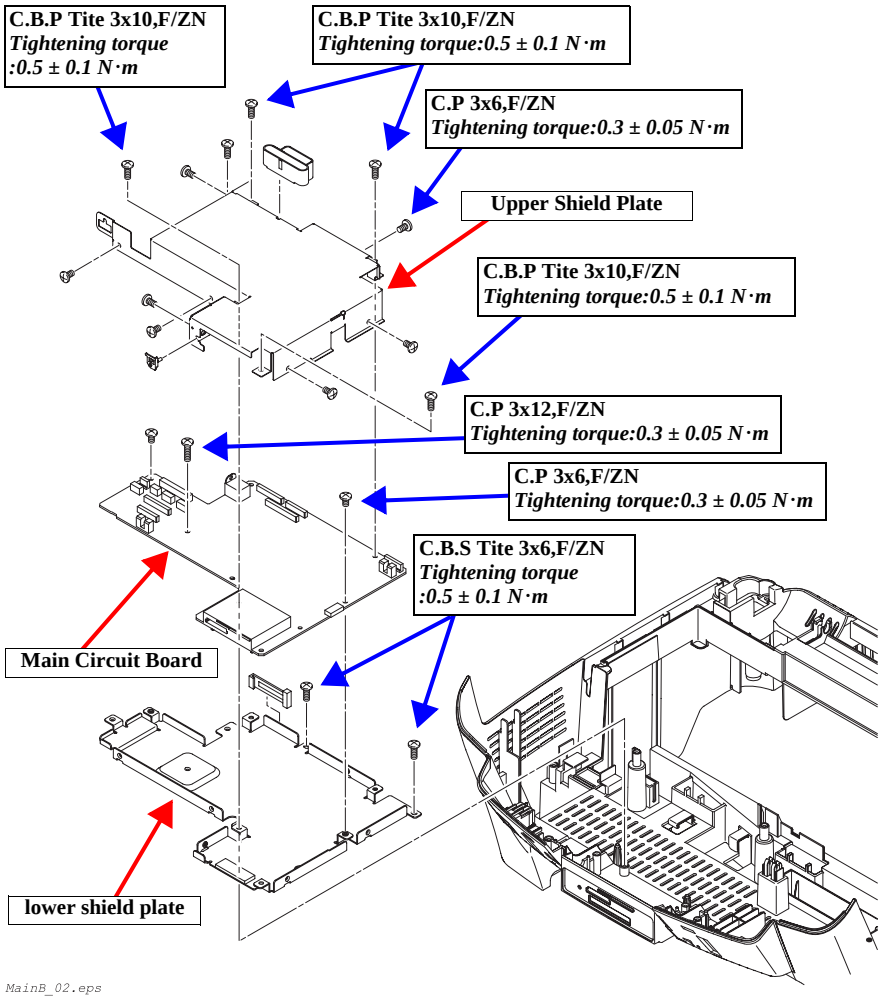


Figure 4-21. Main Circuit Board Removal

Table 4-4.

CN No.	Color	Pins	Connection Point
CN3	White	14	Power Unit
CN4	(FFC)	25	CCD Module
CN5	White	5	TPU Inlet Holder
CN6	Red	4	Scanner Motor
CN7	White	3	HP sensor circuit board
CN8	(FFC)	30	Panel circuit board
CN10	White	3	Detector circuit board
CN11	Black	4	CR Motor
CN12	White	4	PF Motor
CN13	(FFC)	19	Print Head
CN14	(FFC)	25	Print Head

ADJUSTMENT REQUIRED

When replacing the C554 main circuit board, refer to the following for replacement and adjustments of parts.

- **Adjustment Items for Individual Units and Components *(p64)***

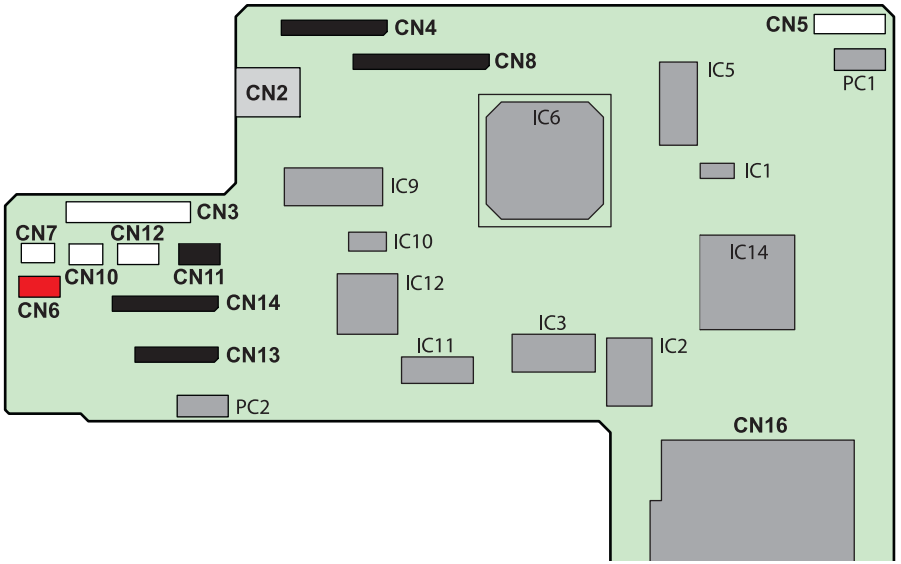


Figure 4-22. Connector Diagram

CHAPTER

5

ADJUSTMENT

Download Service Manual And Resetter Printer at http://printer1.blogspot.com

5.1 Overview

This Chapter describes the necessary adjustment items and adjustment procedures for applicable Unit / Parts.

This section shows details of each Adjustment Process according to Adjustment Program.
Adjustment Information for each Printer Mechanism needs to be set for this product in order to maintain reliable printing function and print quality for each printer mechanism. Accordingly, once the Printer Mechanism, Main Board or Print Head has been replaced, it is necessary to set and save the correct information of the mechanism into the Main Board by using the Adjustment Program.

During execution of the Adjustment Program, be sure to turn off the power to the printer when parts are to be removed and installed.

5.1.1 Adjustment Items for Individual Units and Components

The adjustment items for this product are as indicated below. When performing any of these adjustments, be sure to execute all the related items so that this product operates normally.

Table 5-1. Adjustment Items for Individual Units and Components

Unit / Component (Reference Page for Disassembly/Assembly)	Adjustment Items									Other Items to be Performed
	Market setting	Head ID	Head angular adjustment	Bi-D adjustment	1st dot position adjustment	PW ajustment	Calorific limitation input	USB ID	Firmware Uploading	
Main Board Unit replacement *(p60)* *1	2	5	6	9	8	7	10	11	4	1. Waste Liquid Pad replacement *(p58)* 3. Waste ink pad counter *(p74)*
Printhead removal *(p53)*	–	–	2	5	4	3	–	–	–	1. Head cleaning *(p73)*
Printhead replacement *(p53)*	–	2	3	6	5	4	–	–	–	1. Ink charge *(p73)*
Printer Unit replacement	–	2	3	6	5	4	7	–	–	1. Ink charge *(p73)*
Waste Liquid Pad replacement *(p58)*	–	–	–	–	–	–	–	–	–	1. Waste ink pad counter *(p74)*
Power Unit replacement *(p56)*	–	–	–	–	–	–	1	–	–	
Carriage Unit removal / replacement *(p51)*	–	–	1	4	3	2	5	–	–	

Note "*1": Before replacing the Main Board, check to see if the data in EEPROM can be read out. (Backup operation) When the data in EEPROM can be read out, the following items of adjustments are not necessary.

- Head ID
- Head angular adjustment
- Bi-D adjustment
- PW ajustment
- USB ID
- 1st dot position adjustment
- Calorific limitation input

CAUTION

Upon completion of a series of adjustments, perform the following check pattern printing and check the adjusted values of the printer again.

- **Normal Paper Pattern *(p76)***
- **Photo Quality Paper Pattern *(p76)***

5.2 Adjustments by Adjustment Program

5.2.1 Overview

This machinery is adjusted by using specialized adjust program. Adjusted revision figure is written into EEPROM of Main Board.

☐ Operating environment

- ■ OS : Windows98/Me/2000/XP
- ■ Hardware : PC equipped with USB 1.1/2.0 I/F

☐ Program constitution

- SPRX500510_Ver10.exe (program main file)
- D4Comm.dll
- DataManu.dll
- OsSwitch.dll
- PrnDrv95.dll
- PrnDrv98.dll
- PrnDrvXP.dll

5.2.1.1 Installing the Adjustment Program

Copy the seven files listed above into any desired folder on the PC.

CHECK POINT

- ■ **Before installing this program, make certain that a USB driver has been installed on the PC properly.**
- ■ **Make sure that the seven files are contained in the same folder.**

5.2.1.2 Starting the Adjustment Program

1. The following start screen is displayed when the adjustment program has been started. Then select a model name, destination and port.

Figure 5-1. Adjustment Program Start Screen

2. Click the [OK] button.

CHECK POINT

While Stylus PHOTO RX500/510 is warming up (Power LED is flashing), you cannot run the program (a communication error occurs). Run the program after making certain that the Power LED of the printer is lit.

3. Select the item to be executed by clicking the tab.

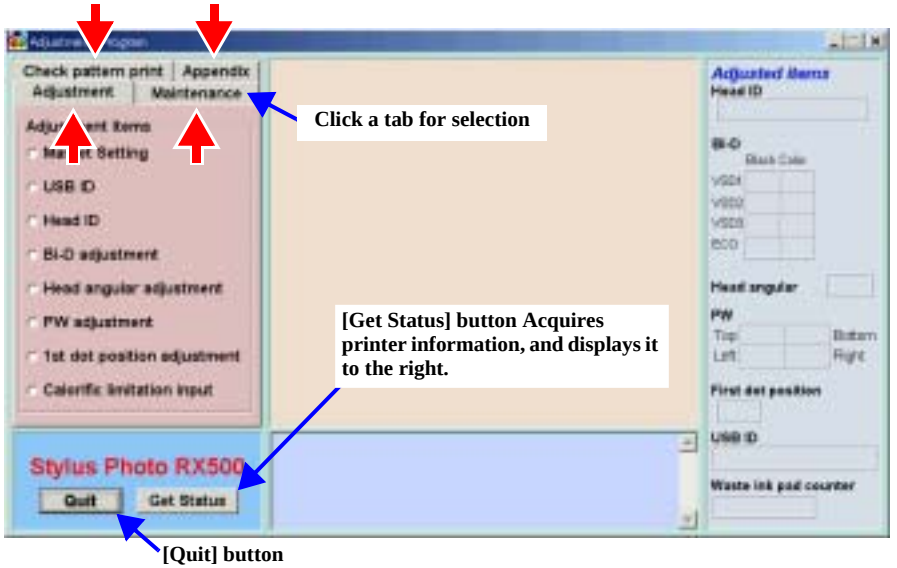


Figure 5-2. Adjustment Program Screen

☐ Quitting the program

Clicking the [Quit] button displays the window shown below.

- ■ [Quit] button : Finishes the adjustment and closes the program.
- ■ [Continue] button : Returns the program to the start screen.

Figure 5-3. Quit Screen

5.2.2 Adjustment

This section describes the items of the adjustment tabs of the adjustment program.

5.2.2.1 Market Setting (EEPROM initialization)

When the Main Board of this machinery has been replaced with a new one, enter the initial setting values in EEPROM with this Adjustment Item.

☐ Functions of buttons

- ■ [OK] : In the bottom center area on the screen, a message appears to indicate that the initial setting values of Stylus PHOTO RX500/510 have been written.
- ■ [Check] : You can check the current destination setting of the printer.

CHECK POINT

Be sure to make this setting irrespective of the result of "EEPROM data copy" *(p75)*

Figure 5-4. Destination Setting Screen

5.2.2.2 USB ID Input

A specific USB ID is stored in EEPROM on the Main Board. Therefore, it is required to input a USB ID when you have replaced the Main Board with a new one.

The USB ID, which is a specific 18-digit alphanumeric character string, has been recorded at a certain address on EEPROM. A USB ID is assigned at the factory as follows.

- Manufacture process line No. (3 digits)
- PC No. (2 digits)
- Date (12 digits) -The built-in time data of the PC is used.
- "0" (1 digit)

In repair, the 10-digit product serial number is used as the 10 digits of the new USB ID, and the new USB ID is completed with an 8-digit character string which is produced by Adjustment Program and automatically added to the serial number. Then input the new USB ID in EEPROM on the new Main Board.

Read 10 digits serial number from manufacture plate on the back of Stylus Stylus PHOTO RX500/510 and input it and click the [OK] button. New USB ID is input to EEPROM.

☐ Functions of buttons

- [Input] : Click the [Input] button after inputting the USB ID, and the USB ID will be written in EEPROM.
- [Read] : You can check the current USB ID.

CHECK POINT

This operation is not needed when the setting values in EEPROM on the old Main Board have been written in EEPROM on the new Main Board normally.

Refer to *"5.2.3.5 EEPROM data copy (p75)"*

Figure 5-5. USB ID Input Screen

5.2.2.3 Head ID Input

With this function, write the head ID in EEPROM, and check the current setting value. This adjustment compensates for the uneven discharge of ink to keep the printing quality at a constant level. An irregularity occurs in the printing density unless a proper ID is input.

- Functions of buttons
  - [Input]: Click the [Input] button after inputting the Head ID, and the Head ID will be written in EEPROM.
  - [Read]: You can check the current Head ID.

CAUTION

As the Head ID, use the 15-digit character string found on the Print Head.
Example: 634657UTPS1VUMW

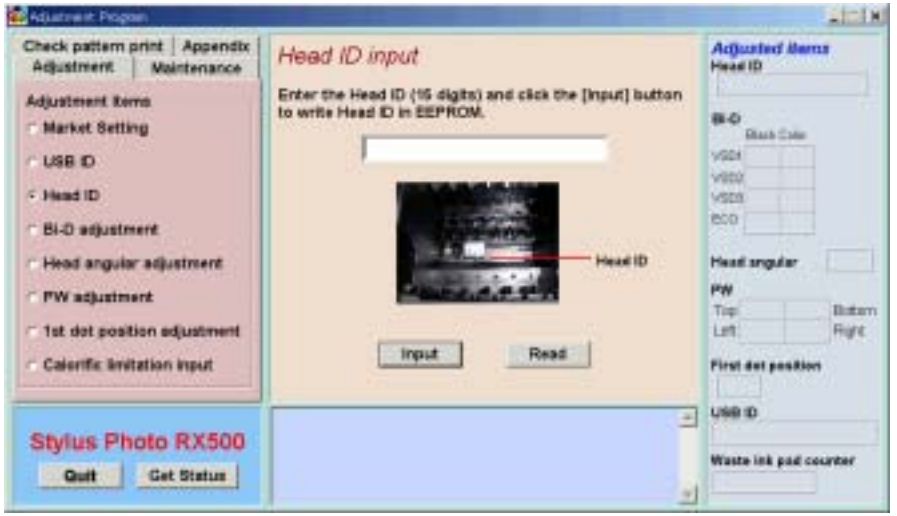

Head ID input
Enter the Head ID (15 digits) and click the [Input] button to write Head ID in EEPROM.
Input
Read
Stylus Photo RX500
Quit
Get Status

Figure 5-6. Head ID Input Screen

5.2.2.4 Head Angular Adjustment

Perform pattern printing, determine an adjustment value so that the program compensates for an error in the mounting position of the head relative to the print surface, and write the adjustment value in EEPROM.

- Media to be used: Photo Quality Ink Jet Paper (A4 Size)
- Functions of buttons
  - [Print]: Prints the head angular adjustment pattern.
  - [Input]: Click the [Input] button after inputting the adjustment value, and the adjustment value will be written in EEPROM.
  - [Read]: You can check the current head angular adjustment value.
  - [Paper feed]: Use this button when a margin is to be placed above the pattern printing position.

CHECK POINT

- **For adjustment procedure, click the [How to adjust] button on the adjustment program screen and see the display.**
- **After writing the adjustment value in EEPROM, print the pattern again and check the adjustment value for properness.**

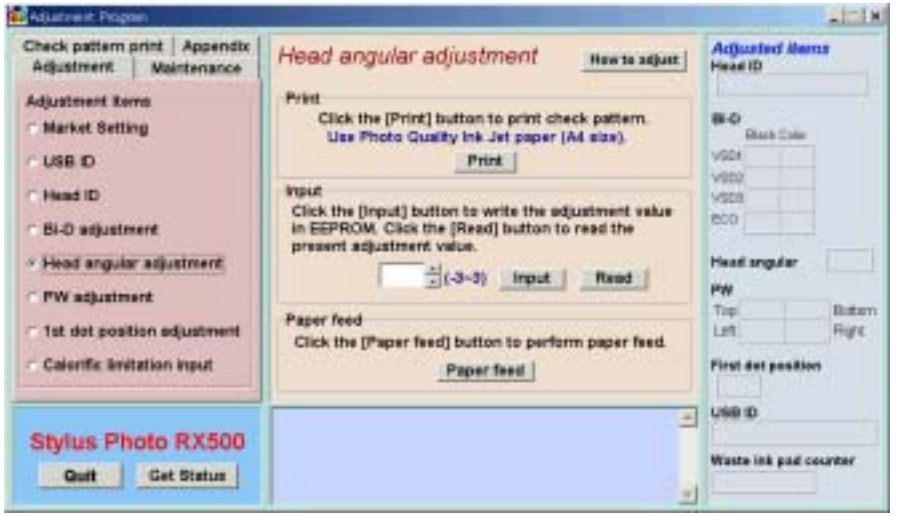

Head angular adjustment
How to adjust
Print
Click the [Print] button to print check pattern.
Use Photo Quality Ink Jet paper (A4 size).
Print
Input
Click the [Input] button to write the adjustment value in EEPROM. Click the [Read] button to read the present adjustment value.
Input
Read
Paper feed
Click the [Paper feed] button to perform paper feed.
Paper feed
Stylus Photo RX500
Quit
Get Status

Figure 5-7. Head Angular Adjustment Screen

5.2.2.5 1st Dot Position Adjustment

This adjustment corrects the left margin (Print start position) for post card printing and A4 printing. The value indicated at the center of the adjustment window is the current value recorded in EEPROM.

Perform this adjustment in the order of printing the pattern → checking → adjustment → printing → checking.

☐ Media to be used: Normal paper (A4 Size)

CHECK POINT

- **For adjustment procedure, click the [How to adjust] button on the adjustment program screen and see the display.**
- **After writing the adjustment value in EEPROM, print the pattern again and check the adjustment value for properness.**

☐ Reference value: 2.0 ~ 4.0 mm (from left edge)

☐ Functions of buttons

- [Print]: Prints the adjustment pattern.
- [Paper feed]: Use this button when a margin is to be placed above the pattern printing position.
- [Input]: Select a desired adjustment item and input the adjustment value, and click the [Input] button to write the adjustment value in EEPROM.
- [Read]: You can check the current adjustment value.
- [<], [>] : 0.0706 mm (compensation value: 4) shifting
- [<<], [>>] : 1.0584 mm (compensation value: 60) shifting
- [■] : 0.0000 mm (compensation value: 0) shifting

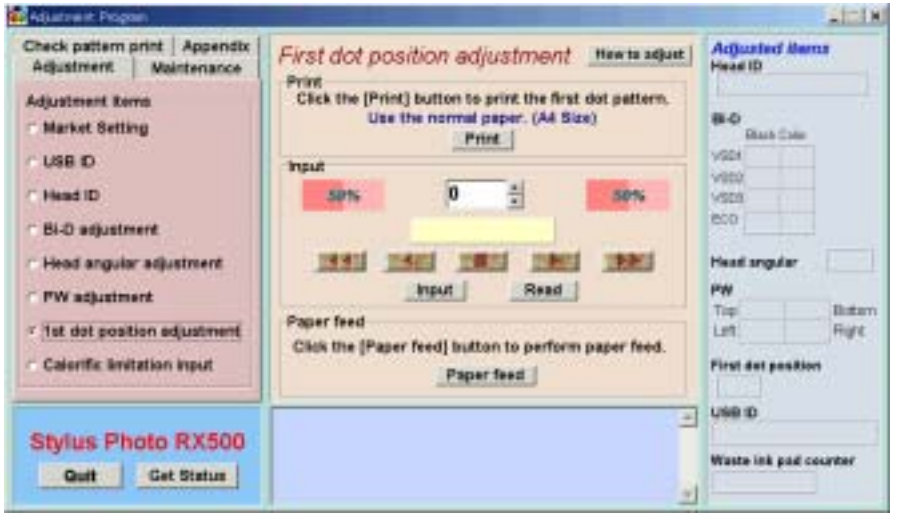


Figure 5-8. 1st Dot Position Adjustment Screen

5.2.2.6 Bi-D Adjustment

This adjustment corrects the deviation of printing timing for bidirectional printing which can occur due to variation of assembly precision/component parts of the Printer Mechanism. Print the Bi-D pattern and make adjustment so that the pattern is printed properly.
In addition, you can check the current setting value. Perform this adjustment in the order of printing the pattern → checking → adjustment → printing → checking.

- ☐ Media to be used : Photo Quality Paper (A4 Size)
- ☐ Functions of buttons
  - ■ [Print] : Prints the Bi-D adjustment pattern.
  - ■ [Paper feed] : Use this button when a margin is to be placed above the pattern printing position.
  - ■ [Go to input page] : Displays the input screen.
  - ■ [Go to print page] : Displays the printing screen.
  - ■ [Input] : Select a desired adjustment item and input the adjustment value, and click the [Input] button to write the adjustment value in EEPROM.
  - ■ [Read] : You can check the current adjustment value.

CHECK POINT

- ■ **For adjustment procedure, click the [How to adjust] button on the adjustment program screen and see the display.**
- ■ **After writing the adjustment value in EEPROM, print the pattern again and check the adjustment value for properness.**

Figure 5-9. Bi-D Adjustment Printing Screen

Figure 5-10. Bi-D Adjustment Input Screen

5.2.2.7 PW Adjustment

The PW sensor is installed on the bottom of the Carriage Unit (refer to p.16). Make adjustment so that the program compensates for a dislocation of the Carriage Unit resulting from its removal or replacement, and write the adjustment value in EEPROM. Perform this adjustment in the order of printing the pattern → checking → adjustment → printing → checking.

- ☐ Media to be used : Normal paper (A4 Size)
- ☐ Reference value : 5mm (top and bottom, and right and left)
- ☐ Functions of buttons
  - ■ [Print] : Prints the adjustment pattern.
  - ■ [Input] : Select a desired adjustment item and input the adjustment value, and click the [Input] button to write the adjustment value in EEPROM.
  - ■ [Read] : You can check the current adjustment value.

CHECK POINT

- ■ **For adjustment procedure, click the [How to adjust] button on the adjustment program screen and see the display.**
- ■ **After writing the adjustment value in EEPROM, print the pattern again and check the adjustment value for properness.**

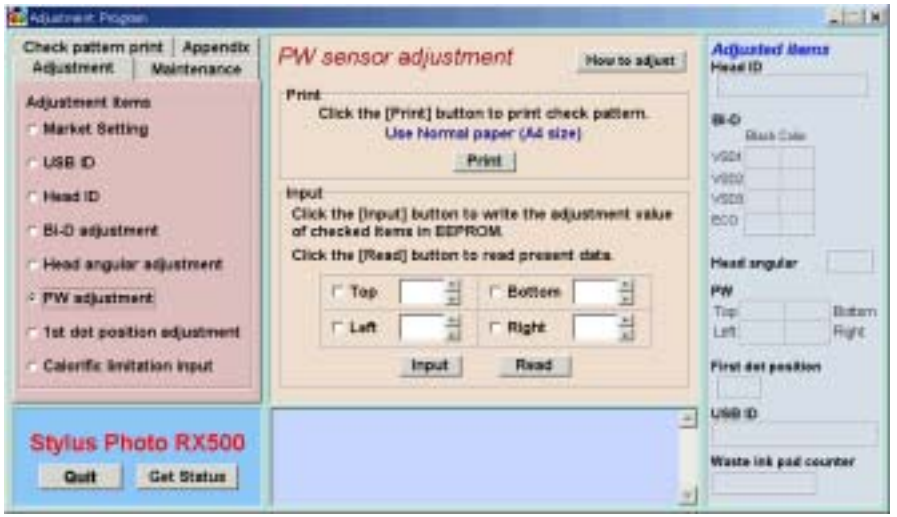


Figure 5-11. PW Adjustment Screen

5.2.2.8 Calorific Limitation Input

CAUTION

- **Be sure to make this adjustment when you have replaced the CR Motor or Power Supply Board with a new one. (In the case of removal or replacement of Main Board, only when the backup of the data in EEPROM cannot be executed) Do not execute this function even when any component other than above has been removed or replaced.**
- **Since Stylus PHOTO RX500/510 does not include CR guide shaft, do not place a check in CR guide shaft.**

In this adjustment, the load on the mechanism is calculated, by conversion, from the current in the CR Motor. Based on this data, the heat generation timing of the CR Motor is calculated precisely and registered in EEPROM. Thus this adjustment optimizes the protective operation timing during continuous driving of the carriage. When a specified component has been removed or replaced, this adjustment is necessary to prevent the motor coil from being burnt.

No.	Description	Time for Adjustment *
1	Register the maximum compensation value for CR Motor heat generation control in EEPROM.	CR Motor replacement
		PS Circuit Board replacement
		Main Circuit Board replacement
2	Start the calorific limitation input, and register an appropriate heat generation control compensation value in EEPROM.	CR Guide Shaft removal/ replacement

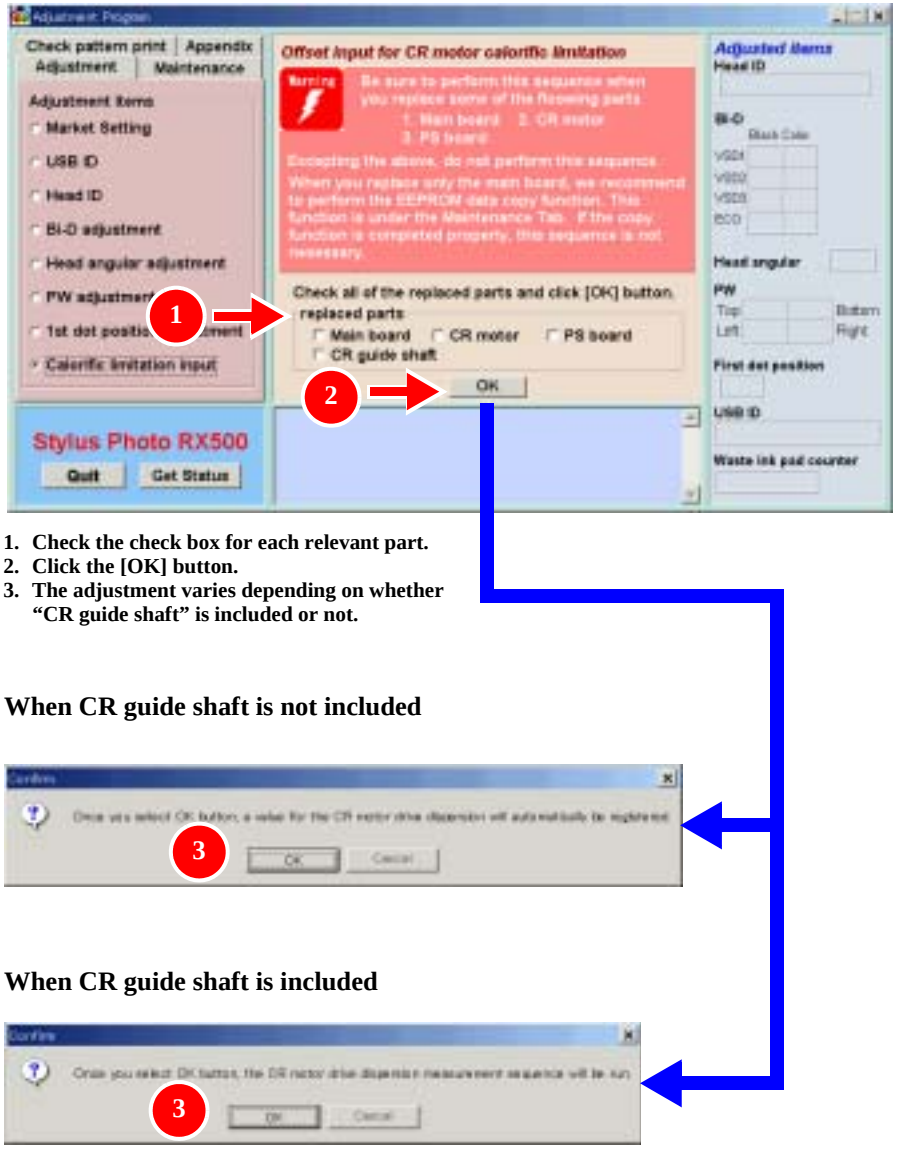
Note "*1": Select the relevant pars from "replaced parts" on the Calorific Limitation Input screen, and click [OK]. (Two or more parts can be selected) When the selected parts include CR guide shaft, carry out the adjustment of No. 2.

CHECK POINT

This adjustment is not required when only the Main Board has been replaced with a new one and EEPROM backup has successfully been achieved.
Refer to *"5.2.3.5 EEPROM data copy (p75)"*

☐ Functions of buttons

- **[OK]** : Click the [OK] button after selecting the relevant parts. Then the related adjustment window is displayed. Clicking the [OK] button executes the adjustment.



1. **Check the check box for each relevant part.**
2. **Click the [OK] button.**
3. **The adjustment varies depending on whether "CR guide shaft" is included or not.**

When CR guide shaft is not included

When CR guide shaft is included

Figure 5-12. Calorific Limitation Input Screen

5.2.3 Maintenance

This section describes the maintenance items of the adjustment program.

5.2.3.1 Head cleaning

You can execute more intensive cleaning than Head Cleaning, which is carried out by selecting it in the menu on the Operation Panel. This function releases the Head Nozzle from clogging which can cause dot missing.

☐ Ink consumption (every cleaning)

Type of Cartridge	Model Number		Consumption
	Europe, EAI	Asia/Latin	
Black I/C	T0481	T0491	7%
Color I/C	T0482, T0483, T0484, T0485, T0486	T0492, T0493, T0494, T0495, T0496	

CHECK POINT

If the nozzle is not released from clogging even by this cleaning, execute initial ink filling.
(Refer to "Ink charge" *(p73)*)

Figure 5-13. Head Cleaning Screen

5.2.3.2 Ink charge

When the Head or Printer Mechanism has been replaced, ink is not available in the ink route just after its installation, thus ink needs to be filled.
When the following work has been performed, ink must be initially filled by executing this item.

- Printer Mechanism replacement
- Printer Head replacement

☐ Ink consumption (every charging)

Type of Cartridge	Model Number		Consumption
	Europe, EAI	Asia/Latin	
Black I/C	T0481	T0491	15%
Color I/C	T0482, T0483, T0484, T0485, T0486	T0492, T0493, T0494, T0495, T0496	

Figure 5-14. Ink Charging Screen

5.2.3.3 Refurbishment For DOA

If you clean the cavity of the printhead and cap assembly, this function will be useful.

CAUTION

- **After carry out this function, replace the waste drain ink pad with new one and reset the Waste drain ink pad counter. Otherwise, the ink or CR02 liquid may leak from the pad during the transportation.**
- **Prepare the following tool.**
  - **Dummy ink cartridge, Injector, CR02 liquid**
- **Do not carry out this program repeatedly. This operation is available only one time. Excessive operation causes overflow of the ink and CR02 liquid.**
- **When you refurbish the repair product by using this program, do it on your responsibility.**
- **When you charge CR02 liquid into the dummy ink cartridge with the Injector, make sure fill out the dummy ink cartridge with CR02 liquid. In case enough CR02 liquid is not charged into the dummy cartridge, the printhead will not cleaned and not filled with the CR02 liquid enough in this operation.**
- **Keep the CR02 liquid and the dummy ink cartridge clean.**

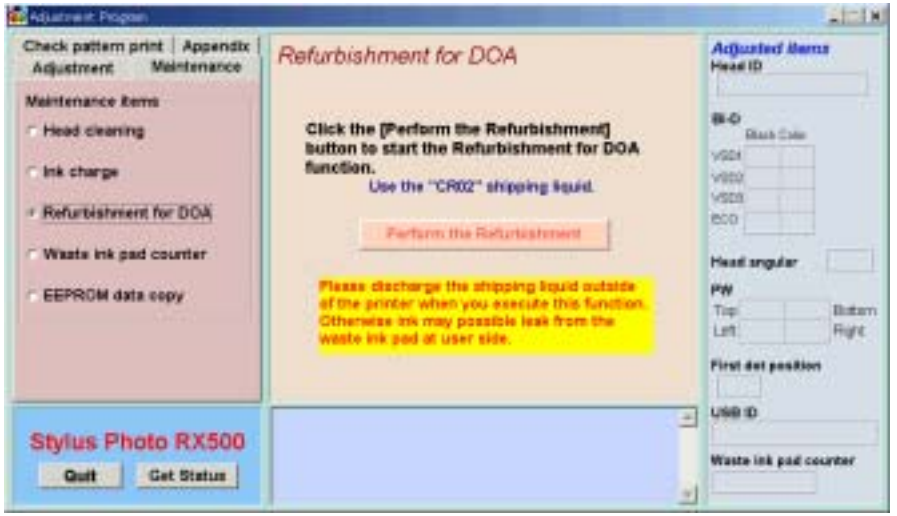


Figure 5-15. Refurbishment For DOA Screen

5.2.3.4 Waste ink pad counter

This counter controls total ink eject volume and displays error status if the volume exceeds the set value, displaying the waste ink overflow indication (printer error indication and Error LED blinking.). By selecting this item, you can check or clear the waste ink pad counter.

This operation is necessary after the following work.

- Waste Ink Porous Pad replacement

☐ Maximum count : 20000~46750 (depending on printing conditions)

☐ Functions of buttons

- [Read] : You can check the current count.
- [Reset] : Clear the waste ink pad counter value. (Return the value to zero)

Figure 5-16. Waste Ink Pad Counter Screen

5.2.3.5 EEPROM data copy

The function is to back up → restore (to the new Main Board) the adjustment values that have been stored in EEPROM on the Main Board. Use of this function will reduce the man-hour for adjustment significantly.

The data to be backed up are as follows.

Table 5-2. Data to be Backed Up

Data to be Backed Up	Page for Adjustment
USB ID	*p67*
Head ID	*p68*
Head angular adjustment value	*p68*
Bi-D adjustment value	*p70*
PW sensor adjustment value	*p71*
1st Dot Position Adjustment	*p69*
Calorific Limitation Input	*p72*
Ink consumption counters	–
Waste ink pad counter	*p74*

Note "*": For your confirmation, the adjustment values are displayed at "Adjusted items" in the right area on the screen.

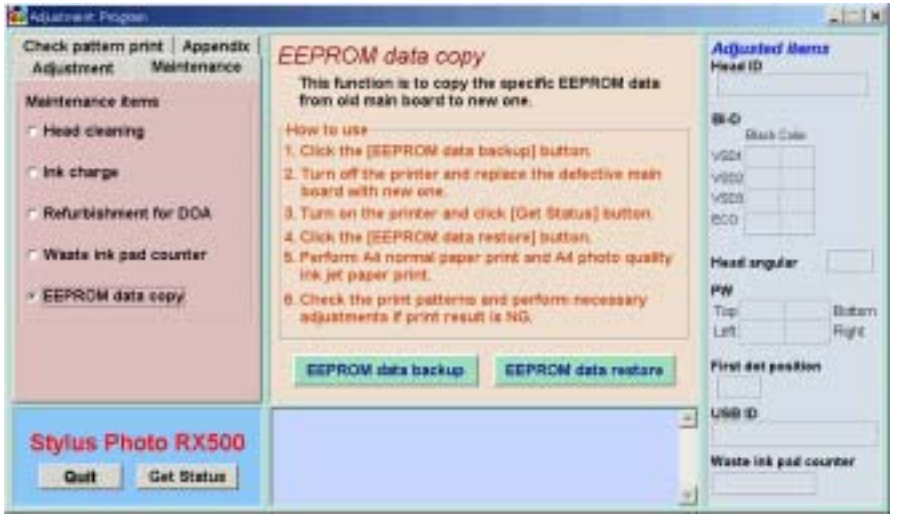

Check pattern print
Adjustment
Appendix
Maintenance
Maintenance items
Head cleaning
Ink charge
Refurbishment for DOA
Waste ink pad counter
EEPROM data copy
EEPROM data copy
This function is to copy the specific EEPROM data from old main board to new one.
How to use
1. Click the [EEPROM data backup] button.
2. Turn off the printer and replace the defective main board with new one.
3. Turn on the printer and click [Get Status] button.
4. Click the [EEPROM data restore] button.
5. Perform A4 normal paper print and A4 photo quality ink jet paper print.
6. Check the print patterns and perform necessary adjustments if print result is NG.
EEPROM data backup
EEPROM data restore
Adjusted items
Head ID
Bi-D
Head angular
PW
First dot position
USB ID
Waste ink pad counter
Stylus Photo RX500
Quit
Get Status

Figure 5-17. EEPROM Data Copy Screen

CAUTION

After restoration, print the check patterns for all the adjustments above and check each adjustment value. If there is any abnormality, make adjustment for the relevant items.

■ **Refer to *"5.2.4 Check Pattern print (p76)"***

5.2.4 Check Pattern print

This operation prints various adjustment patterns.
The patterns for the adjustment items are printed en bloc for each paper type.

CHECK POINT

After printing the adjustment patterns, if any abnormal pattern is found, perform the necessary adjustment by referring to the pages for the relevant adjustment item.

5.2.4.1 Normal Paper Pattern

The table below lists the patterns to be printed here.

Print Pattern	Refer to
PW sensor adjustment pattern (Top/Right)	*p71*
Beta pattern	–
Vertical Alignment pattern	–
Horizontal Alignment pattern	–
Color Nozzle Shift pattern	–
Waste ink pad counter value	*p74*
Head ID	*p68*
USB ID	*p67*
Market destication setting	*p66*
Ink quantity	–
PW sensor adjustment pattern (Bottom/Left)	*p71*

5.2.4.2 Photo Quality Paper Pattern

The table below lists the patterns to be printed here.

Print Pattern	Refer to
First dot position / Top margin pattern	*p69*
Head angular adjustment pattern	*p68*
Bi-D adjustment pattern	*p70*
Accumulated pitch line	–

5.2.4.3 Nozzle check pattern

This function prints the nozzle check pattern. This pattern can be printed also on the printer driver.

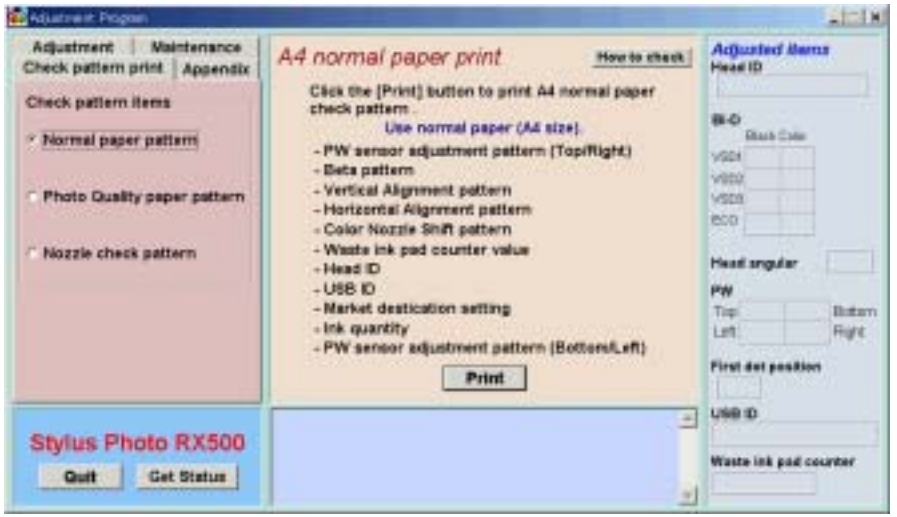


Figure 5-18. Check Pattern Printing Screen (Normal paper)

Figure 5-19. Check Pattern Printing Screen (Photo quality paper)

5.2.5 Appendix

5.2.5.1 Save all of EEPROM data

This function copies all the data in EEPROM into a file. Use this function at the analysis of the product.

Figure 5-20. Save All of EEPROM Data Screen

5.3 Firmware Uploading

IPL allows you to update Firmware in the SPC model. Following is the procedure.

5.3.1 Firmware Program File

Change the name of the supplied file to the designated file name "FWD43UP.dat", and place the file at the root directory of a memory card.

CHECK POINT

- **Memory card must be formatted with FAT.**
- **The following is compatible media cards:**
  CF Card/xD Card/Smart Media/SD Card/Memory Stick

5.3.2 Firmware Update Procedure

1. Turn on the power while holding down the following panel keys.
   [Setup] + [B&W] + [Color]
2. After starting up IPL update mode, insert a program card in the slot.
3. Firmware update progress is displayed on the LED or the LCD screen.
4. After completion of Firmware update has been displayed, turn off the power manually, and end Firmware update.

CAUTION

Do not remove a media card from the slot before completing update.

☐ IPL update progress display

The following is the status change sequence of normal Firmware update.

Table 5-3. IPL Update Progress Display List

Step	Status	Description
1	Firmware update mode	Starting up Firmware update program. It allows you to cancel by pushing down the panel.
2	Waiting for media to be loaded	Waiting for media to be loaded, or checking loading media. (It may take a while to detect and check loading status)
3	Reading updated Firmware	Acquiring Firmware while reading media
4	Deleting old Firmware	Deleting old Firmware in the printer
5	Writing updated Firmware	Registering/reading updated Firmware program
6	Firmware updated successfully	Firmware update is successful and completed

5.3.3 Update Error List

Table 5-4. Update Error List

Status	Description
Previous Firmware update failed*	Firmware was updated in the same media by the other printer, and failure history still exist. Check previous updated Firmware in your printer.
Formatting card failed	Media or format are not recognized
Updated Firmware not found	Updating file does not exist in media
Update failed	Reading media, deleting Firmware, writing Firmware failed.
FILE NOT FOUND	Firmware file name or file itself is not correctly or no data.

Note "*": If "Previous Firmware update failed" is displayed during update, "Hidden file" attribute is set up in the Firmware file that has been stored in media. Without canceling this attribute, the media file cannot be used for updating Firmware. In order to cancel attribute, select the file on Windows Explorer, select "File" → "Property", and remove check mark in a hidden attribute check box, or execute the following command at command prompt: Attrib-HA:\FWD10UP.dat

CHAPTER

6

MAINTENANCE

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6.1 Overview

This section describes maintenance work to maintain the functions and performance of this product.

6.1.1 Maintenance of the Printer

If print irregularity (dot missing, white line, etc.) has occurred or the printer indicates "Maintenance Error", take the following actions to clear the error.

☐ Head Cleaning
The printer has a built-in head cleaning function, which is activated on the operation panel. Confirm that the printer is in the stand-by state (the power indicator is not blinking). Select "Head Cleaning" by means of the Menu buttons on the operation panel and execute it, and the printer will start head cleaning.

☐ Maintenance Error
Ink is used not only for printing but also for other operations, such as cleaning. During such an operation, the printer wastes a certain amount of ink and drains it into the waste ink pad, and the amount of the waste ink is counted. Once the amount of waste ink reaches the predetermined limit, the printer indicates "Maintenance Request" and the waste ink pad must be replaced.

- Waste ink pad counter count up ≥ 20000 ~ 46750
- Time for replacing the Waste Ink Pad

  When the total amount of waste ink reaches the predetermined limit, the printer indicates "Maintenance Request". During repair operation, check the overflow counter and the firmware version, selected code page and nozzle check pattern.
  If the ink counter value is close to its upper limit, notify your customer and recommend that the waste ink pad is to be replaced. (If the waste ink pad is not replaced at that time, "Maintenance Error" will occur just after the printer is retuned to the customer.) Once you have the confirmation from the customer, replace the waste ink pad.

- Treatment after replacement

  Reset the Waste ink pad counter. Turn on the power to the printer and enter into the special menu (ordinary operation) and execute waste ink counter reset menu or perform counter clear by the adjustment program.

6.2 Cleaning

Clean if dirt is visible. As dirt on the glass for placing the document affects directly image reading quality, clean the glass completely.

CAUTION

- **Never use chemical solvents, such as thinner or benzine, as they may deform or deteriorate plastic and rubber products.**
- **Be careful not to damage any components when you clean inside the printer.**
- **Do not scratch the surface of the PF roller assembly. Use a soft brush to wipe off any dust. Use a soft cloth moistened with alcohol to remove ink stain.**
- **Do not use frequently the cleaning sheet included in the media. It may damage the coated surface of the PF roller. However, it is no problem to clean the surface of the ASF LD roller by placing the adhesive surface of the cleaning sheet on the ASF LD roller.**

☐ Exterior parts
Use a clean soft cloth moistened with water and wipe off any dirt. If the exterior parts are very dirty, use a cloth moistened with a neutral detergent to wipe it off.

☐ Inside the printer
Use a vacuum cleaner to remove any paper dust.

☐ Glass for placing the original document on
Remove dust or any paper with a clean dry cloth. If dirt is serious or foreign material is adhering, wipe it off with a cloth moistened with a neutral detergent. If a trace of wiping has remained, wipe the glass again with a dry clean cloth.

☐ ASF LD Roller
If paper dust on the surface of the ASF LD Roller lowers the friction, place the adhesive surface of the cleaning sheet included in the media on the surface of the ASF roller and repeat paper loading from the ASF.

6.3 Lubrication

6.3.1 Designated Lubricant

Table 6-1. Designated Lubricant

Type	Name	Parts Code	Available
Grease	G-26	1080614	EPSON
Grease	G-58	1082176	EPSON

6.3.2 Lubrication Points of the Scanner

When any part of the CR Unit of the scanner has been replaced or the sound of carriage moving is loud, lubrication is necessary.
Figure 6-2 below indicate the designated grease and lubrication points.

Table 6-2. Designated Lubrication Points

Figure	Lubrication Points	Lubrication
Figure 6-1	Both ends of CR shaft	G-26
Figure 6-2	Driven Shaft	G-26

CAUTION

If lubrication exceeds the designated amount, the mechanism may be damaged or functions may be impaired. Be sure to apply the designated volume of grease properly.

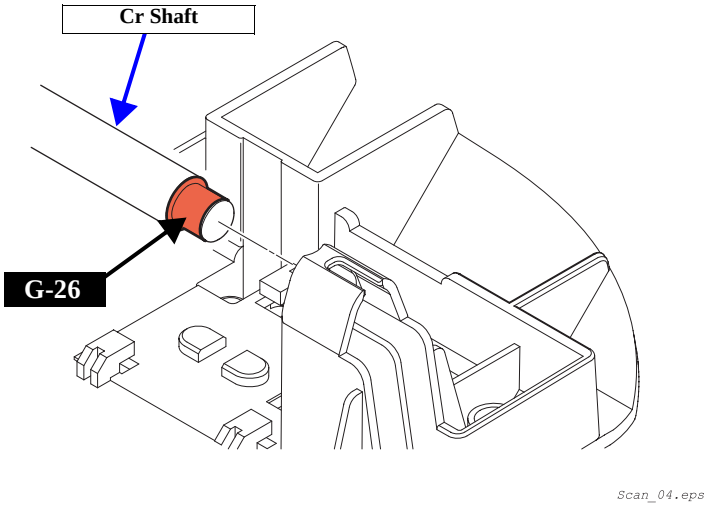

Figure 6-1. Lubricating Points (CR Shaft)

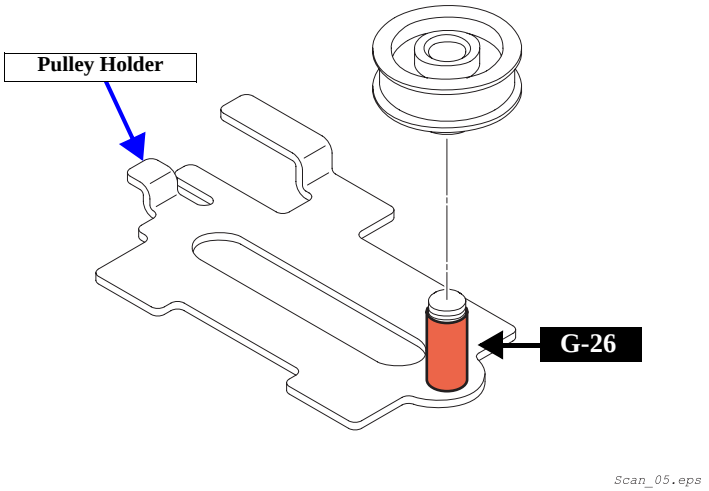

Figure 6-2. Lubricating Points (Driven Shaft)

6.3.3 Lubrication Points of the Printer

The types and amount of the oils and grease for lubrication of the Printer are determined based on factory evaluation. Therefore, be sure to apply a specified volume of the designated grease to each designated point for repair and maintenance of the Printer. The designated grease and application points are indicated below.

CAUTION

- **Never use any oil or grease other than designated, since any other oil or grease can badly affect the machine life or function of the product or damage the mechanism.**
- **As the volume of application is also designated based on evaluation result, be sure to apply the designated volume of grease properly.**

☐ Front Frame

Table 6-3. Designated Lubrication Points

Assy to be Lubricated (Reference Page)	Lubrication Points / Amount of Application	Precautions (Fig No.)
Front Frame *(p57)*	☐ Lubrication Points Front of front frame ☐ Grease to be applied G-58 ☐ Amount of Application ϕ1mm Length:Up to 35mm ~ 20mm right	Use an injector to apply grease. *(See Figure 6-3)*

☐ ASF Unit

Table 6-4. Designated Lubrication Points

Assy to be Lubricated (Reference Page))	Lubrication Points / Amount of Application	Precautions (Fig No.)
Paper return lever *(p54)*	☐ Lubrication Points Paper return cam center area ☐ Grease to be applied G-26 ☐ Amount of Application ϕ1 x 1mm	Use an injector to apply grease. *(See Figure 6-4)*

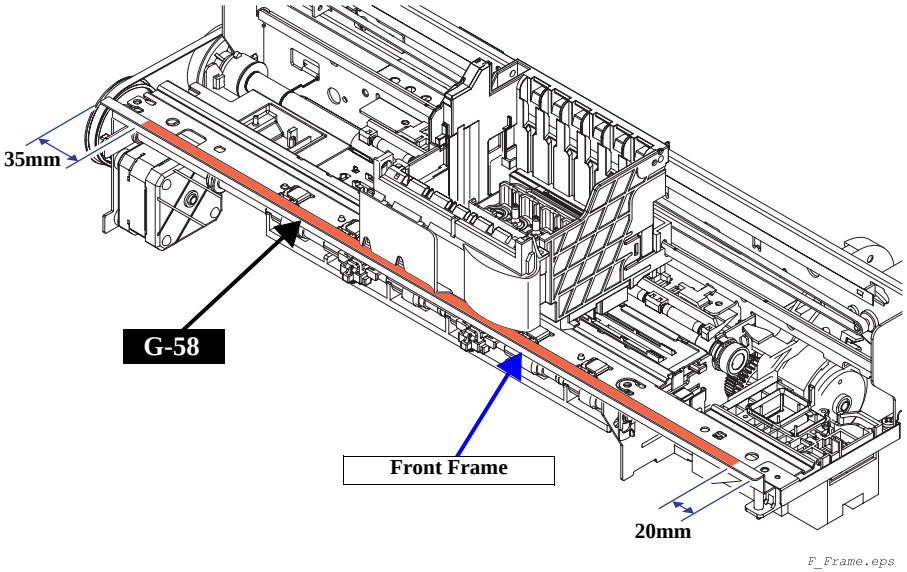

Figure 6-3. Lubricating Points (Front Frame)

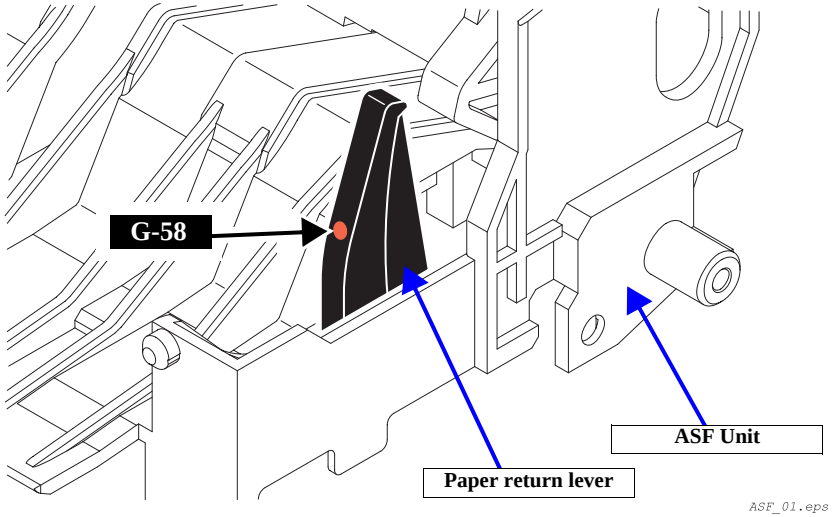

Figure 6-4. Lubricating Points (Paper return lever)

☐ Main Frame

Table 6-5. Designated Lubrication Points

Assy to be Lubricated (Reference Page)	Lubrication Points / Amount of Application	Precautions (Fig No.)
Main Frame	☐ Lubrication Points CR guide area of the main frame ☐ Grease to be applied G-58 ☐ Amount of Application 100mg at each position Length 350mm x Width2mm	• Use lubrication jig • Slide the carriage unit left to right for even application. *(See Figure 6-5)*
Back of Main frame	☐ Lubrication Points Carriage unit slit area on back of the main frame ☐ Grease to be applied G-58 ☐ Amount of Application ϕ3mm x 3mm	Use an injector to apply grease. *(See Figure 6-6)*

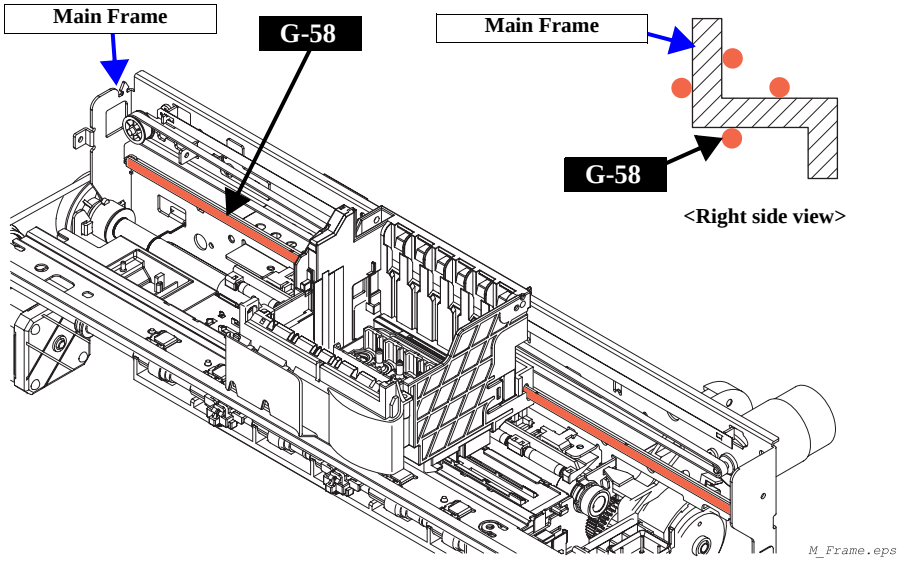

Figure 6-5. Lubricating Points (Main Frame)

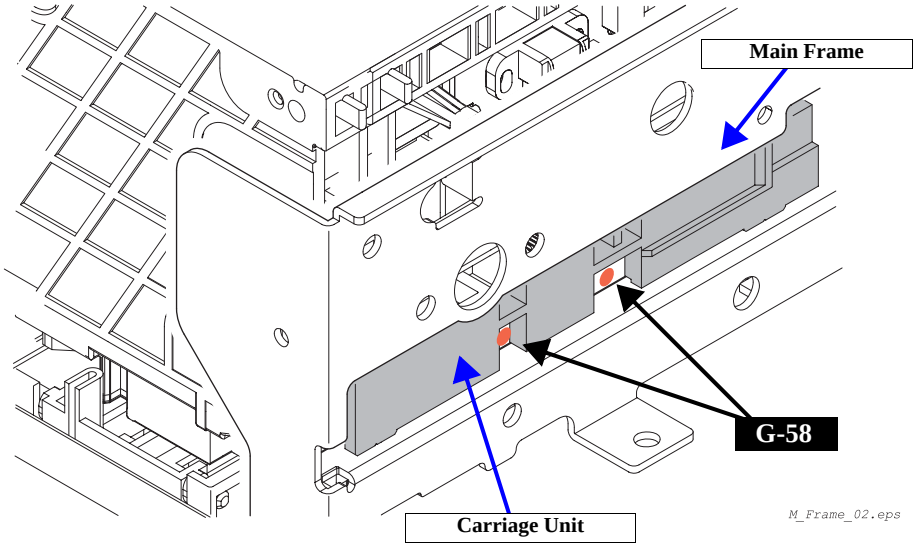

Figure 6-6. Lubricating Points (Back of Main frame)

☐ Carriage Unit

Table 6-6. Designated Lubrication Points

Assy to be Lubricated (Reference Page)	Lubrication Points / Amount of Application	Precautions (Fig No.)
Carriage Unit *(p51)*	☐ Lubrication Points Upper contact area of the guide roller and the guide holder ☐ Grease to be applied G-58 ☐ Amount of Application ϕ1mm	Use an injector to apply grease. *(See Figure 6-7)*

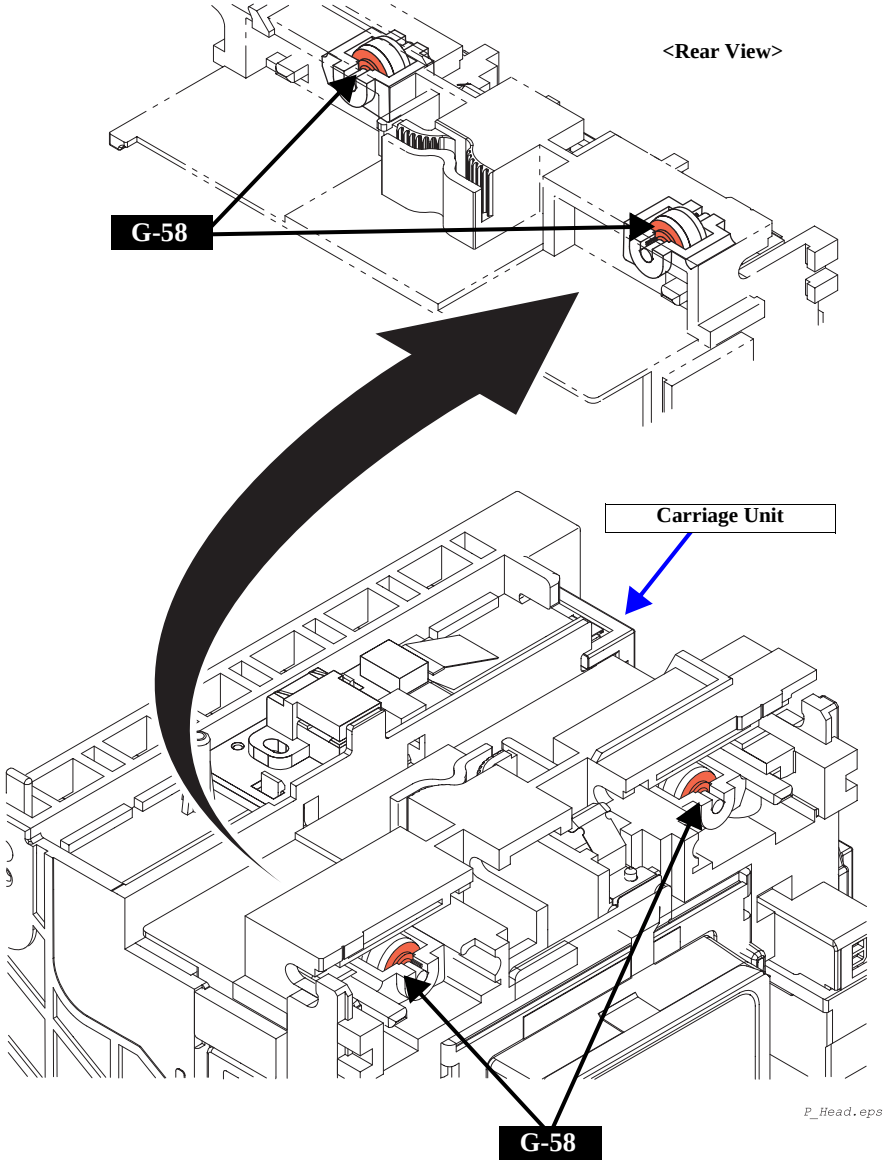

Figure 6-7. Lubricating Points (Carriage Unit)

CHAPTER

7

APPENDIX

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7.1 Connectors

7.1.1 Connector Assignments

Figure below shows the connector assignments on the circuit boards of Stylus PHOTO RX500/510.

Table 7-1.

CN No.	Color	Pins	Connected to
CN2	-	4	USB2.0
CN3	White	14	Power Unit
CN4	(FFC)	25	CCD Module
CN5	White	5	TPU Inlet Holder
CN6	Red	4	Scanner Motor
CN7	White	3	HP sensor circuit board
CN8	(FFC)	30	Panel circuit board
CN10	White	3	DETECTOR circuit board
CN11	Black	4	CR Motor
CN12	White	4	PF Motor
CN13	(FFC)	19	Print Head
CN14	(FFC)	25	Print Head
CN16	-		Card Slot
CN17	-	50	Card Slot (CF)

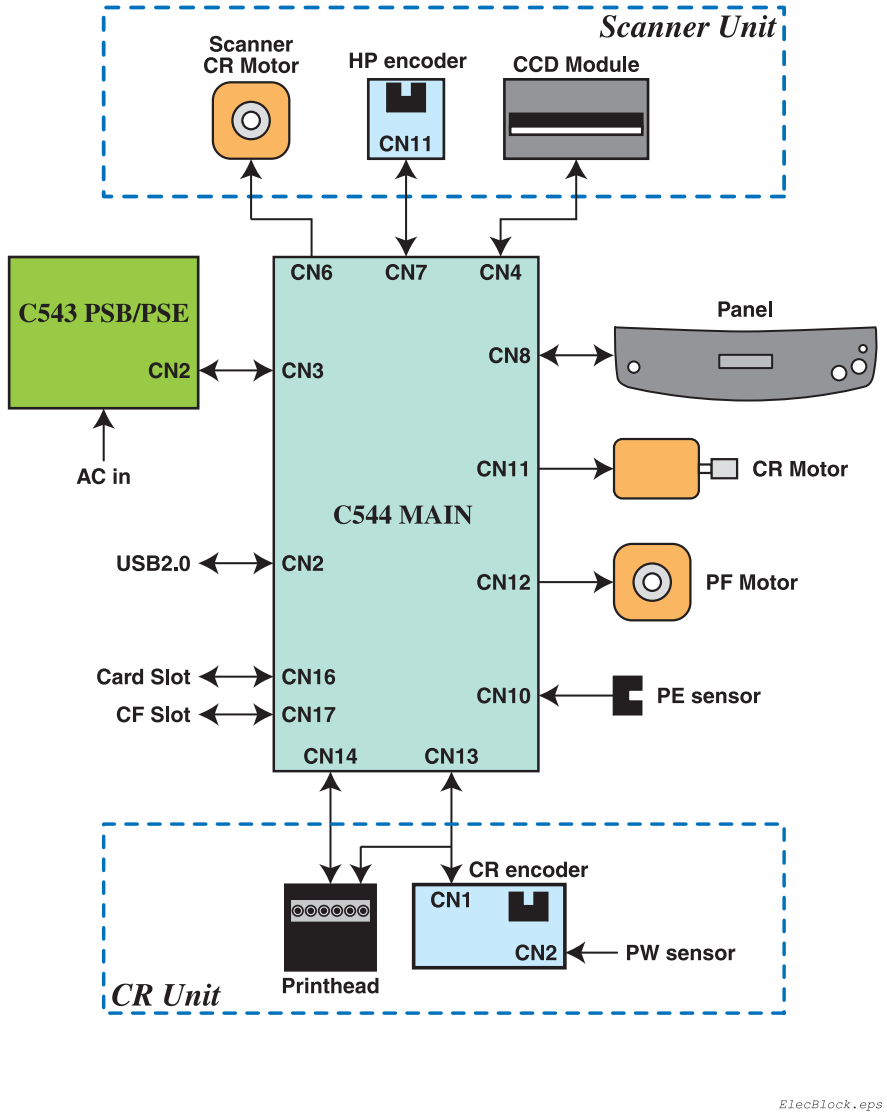


Figure 7-1. Connector Assignments of Circuit Boards

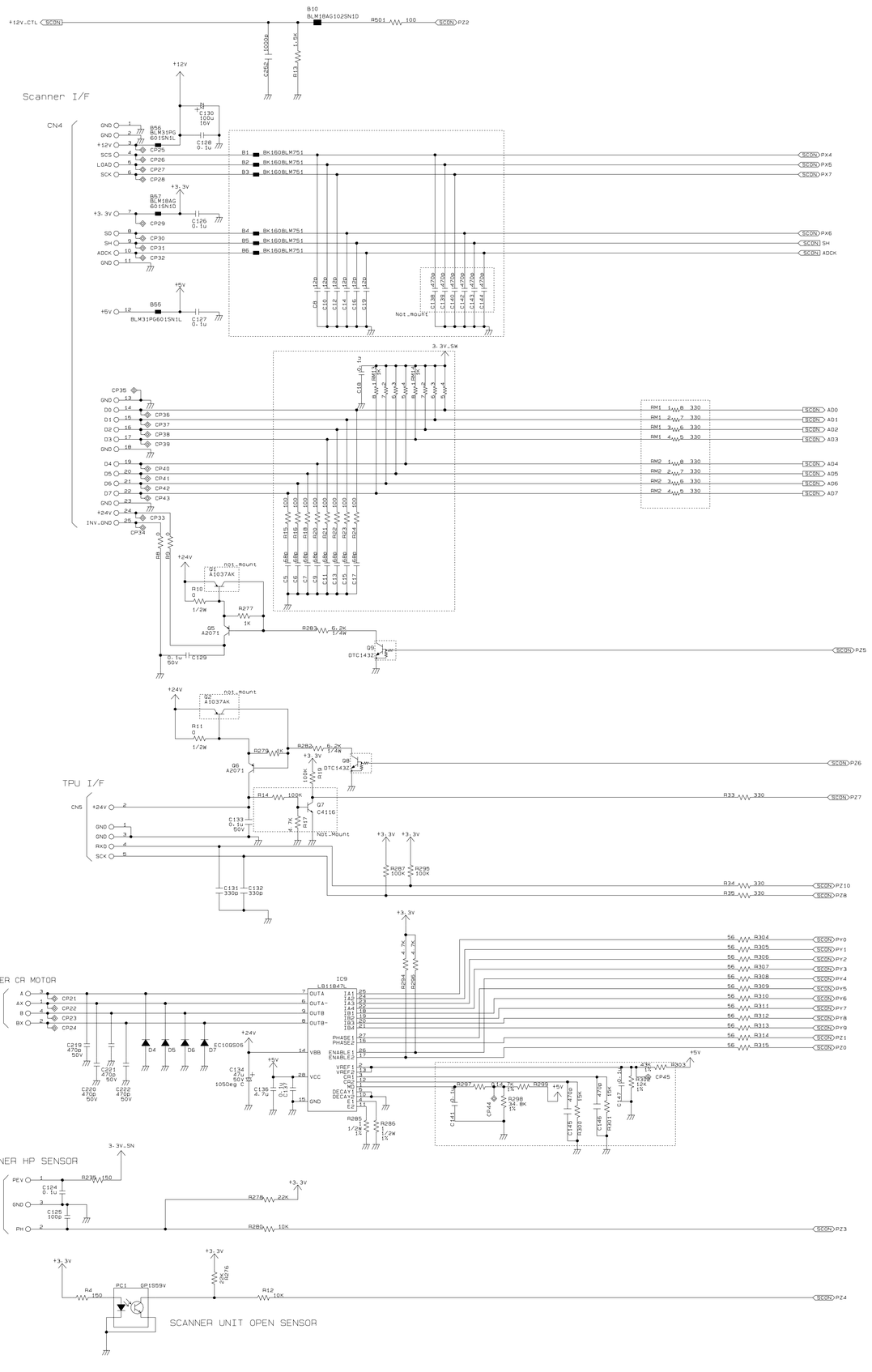
7.2 Electric Circuit Diagrams

This section shows electric circuit diagrams of Stylus PHOTO RX500/510. The electric circuits of Stylus PHOTO RX500/510 are provided on the following circuit boards:

- C544 MAIN Board
- C543 Panel Board
- C543 PSB / PSE Board

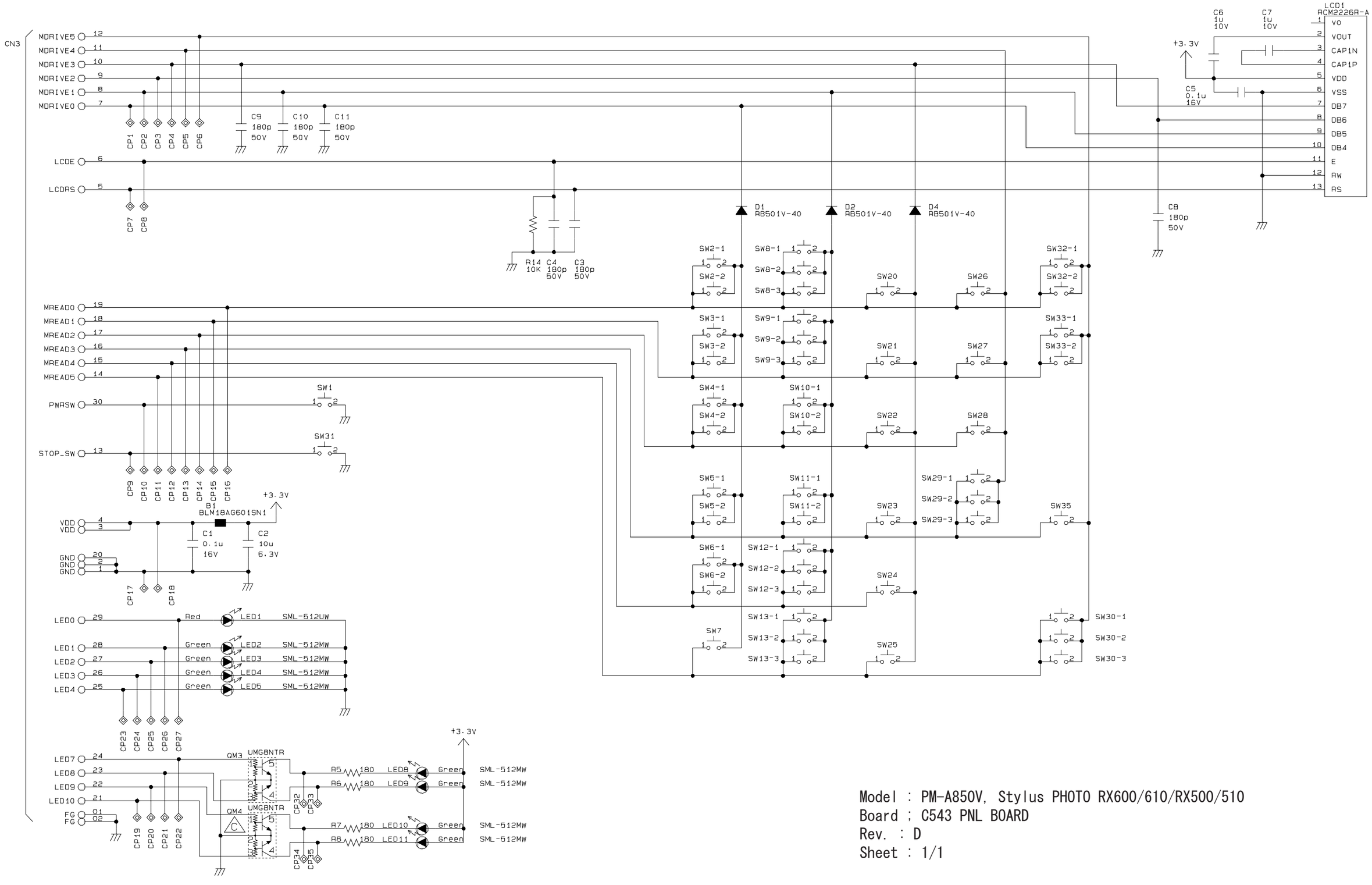
Model : PM-A850V, Stylus PHOTO RX600/610/RX500/510
Board ; C543 MAIN BOARD
Rev. : D
Sheet : 1/3

C543 : Mounted
C544 : Not mounted

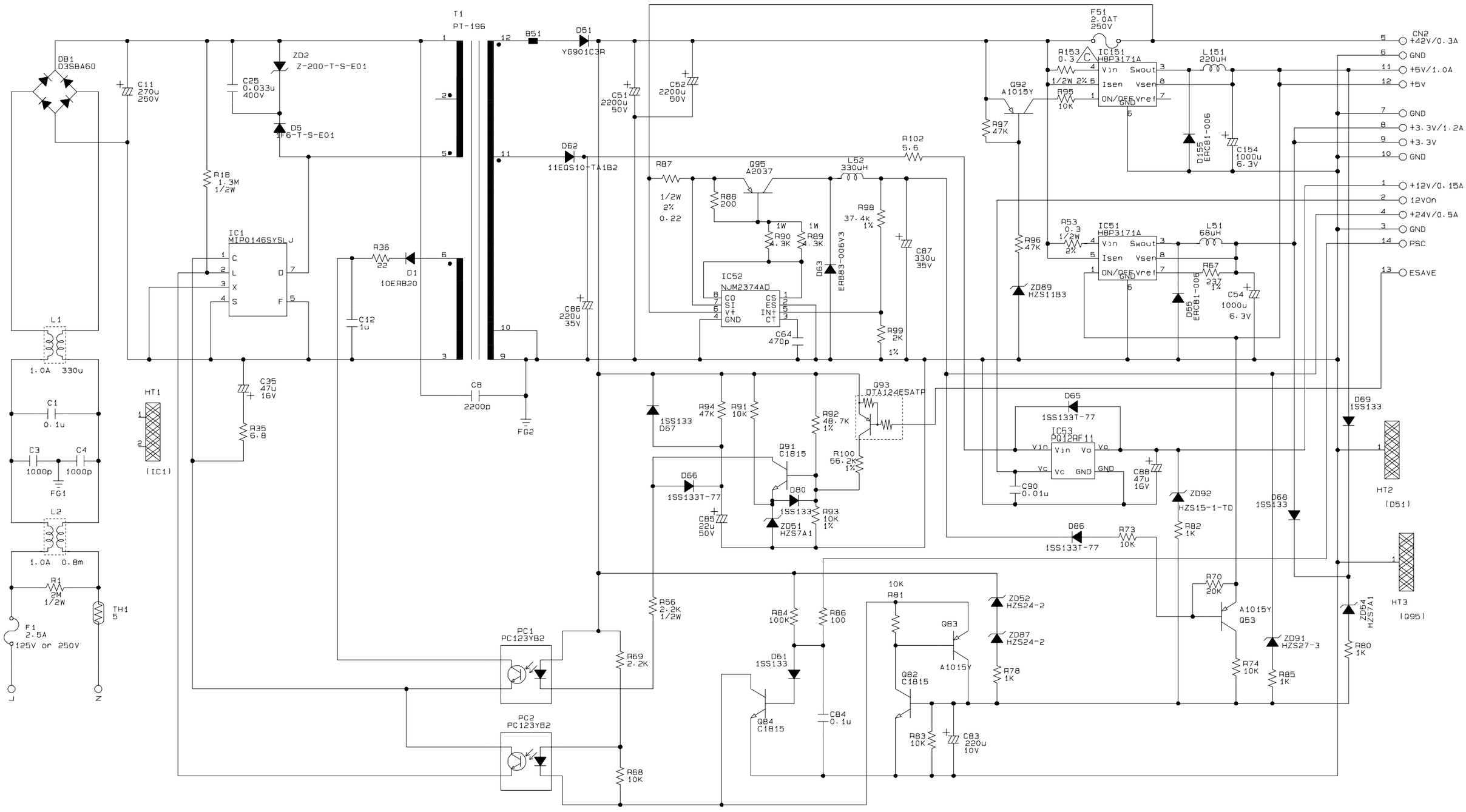


Model : PM-A850V, Stylus PHOTO RX600/610/RX500/510
Board ; C543 MAIN BOARD
Rev. : E
Sheet : 2/3

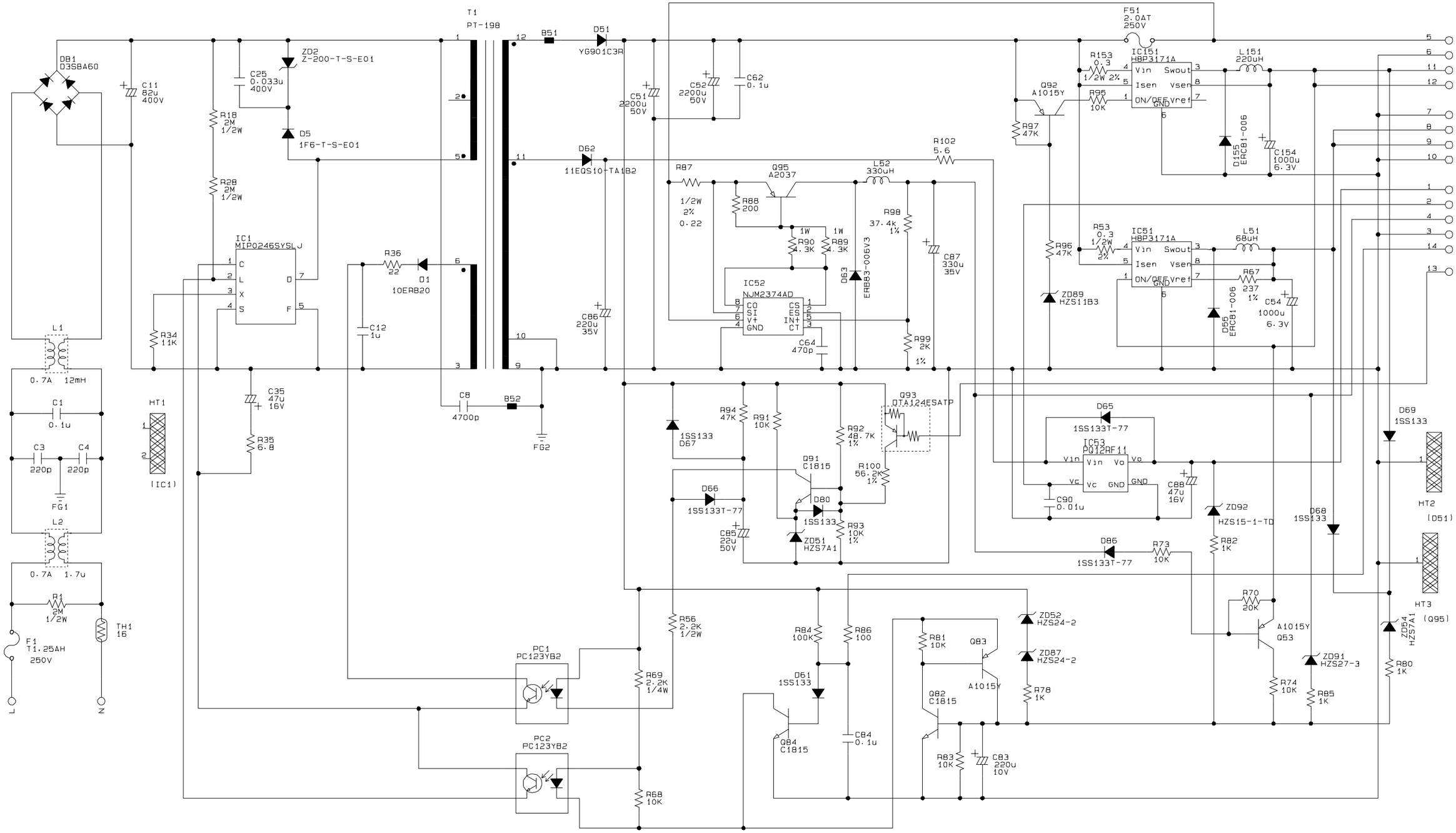
Model : PM-A850V, Stylus PHOTO RX600/610/RX500/510
Board ; C543 MAIN BOARD
Rev. : E
Sheet : 3/3



Model : PM-A850V, Stylus PHOTO RX600/610/RX500/510
Board : C543 PNL BOARD
Rev. : D
Sheet : 1/1



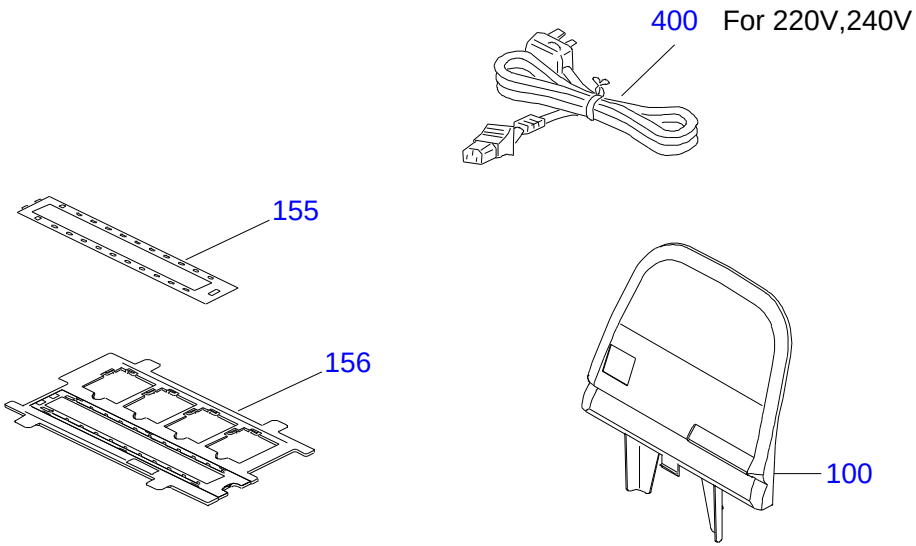
Model : PM-A850V, Stylus PHOTO RX600/610/RX500/510
Board ; C543 PSB BOARD
Rev. : G
Sheet : 1/1

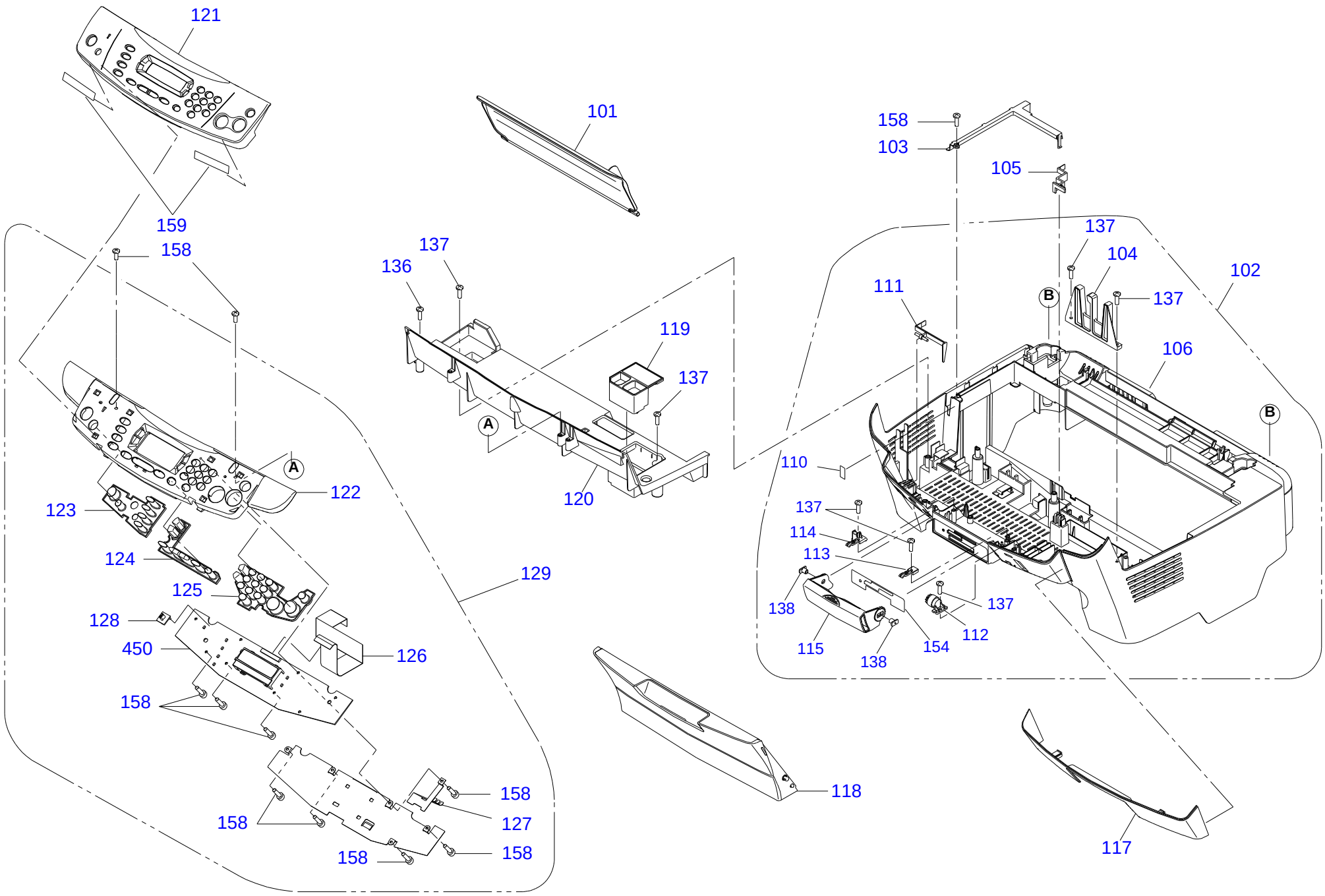


Model : PM-A850V, Stylus PHOTO RX600/610/RX500/510
Board ; C543 PSE BOARD
Rev. : G
Sheet : 1/1

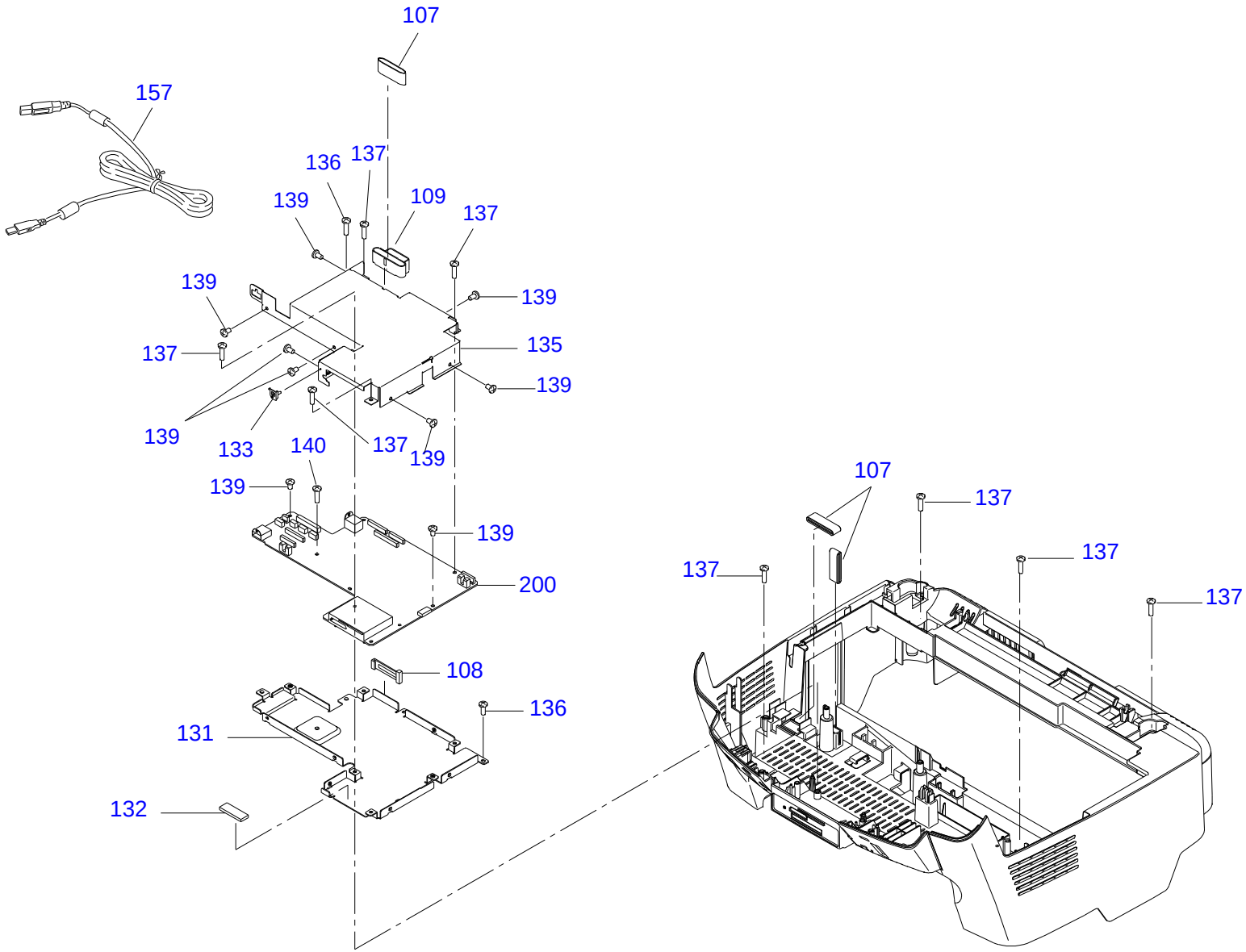
7.3 Exploded Diagrams

This section shows exploded diagrams of Stylus PHOTO RX500/510.


400
For 220V,240V
155
156
100



EPSON STYLUS PHOTO RX500/510 NO.2 Rev.01 C544-CASE-001


107
157
136
137
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131
132
107
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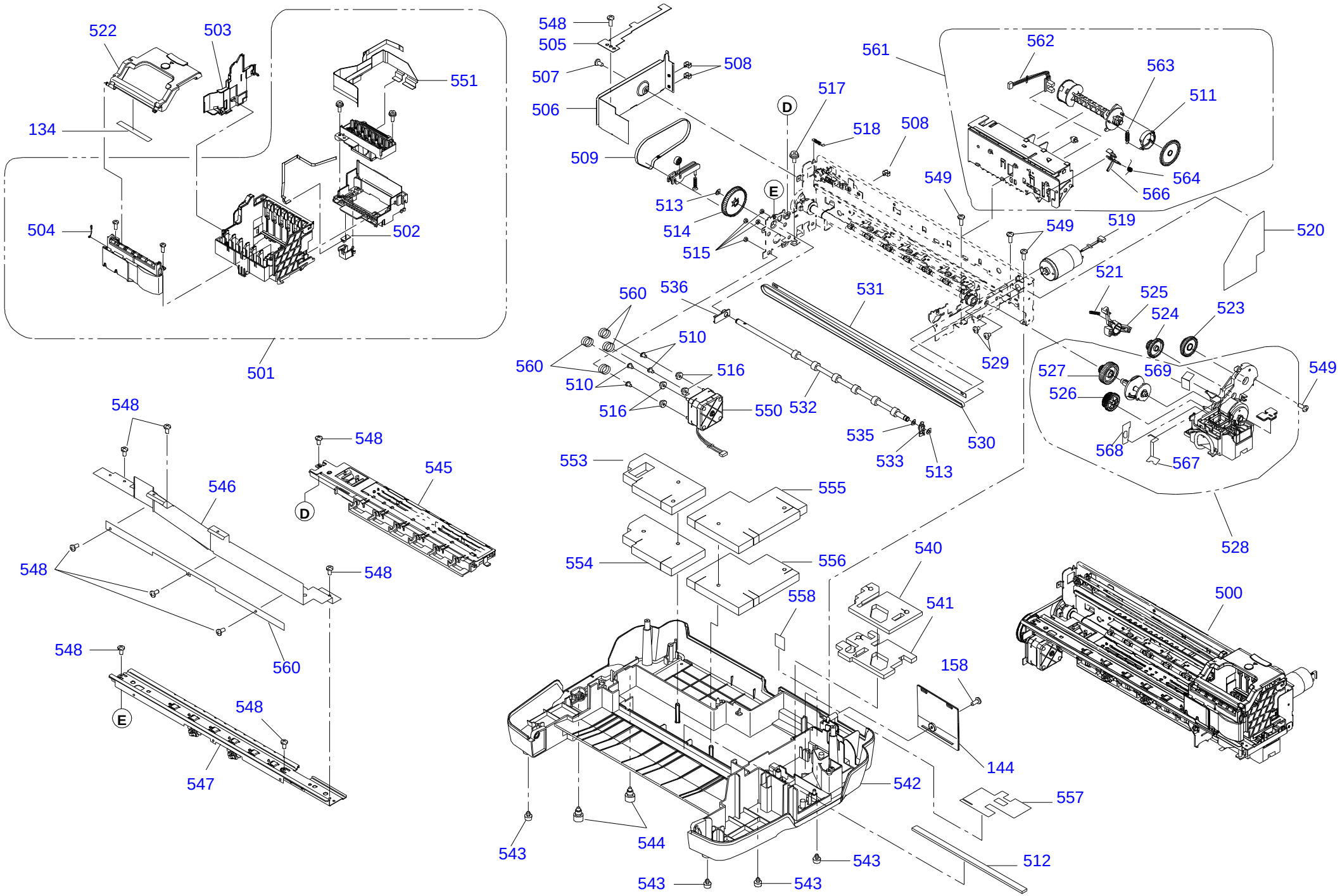
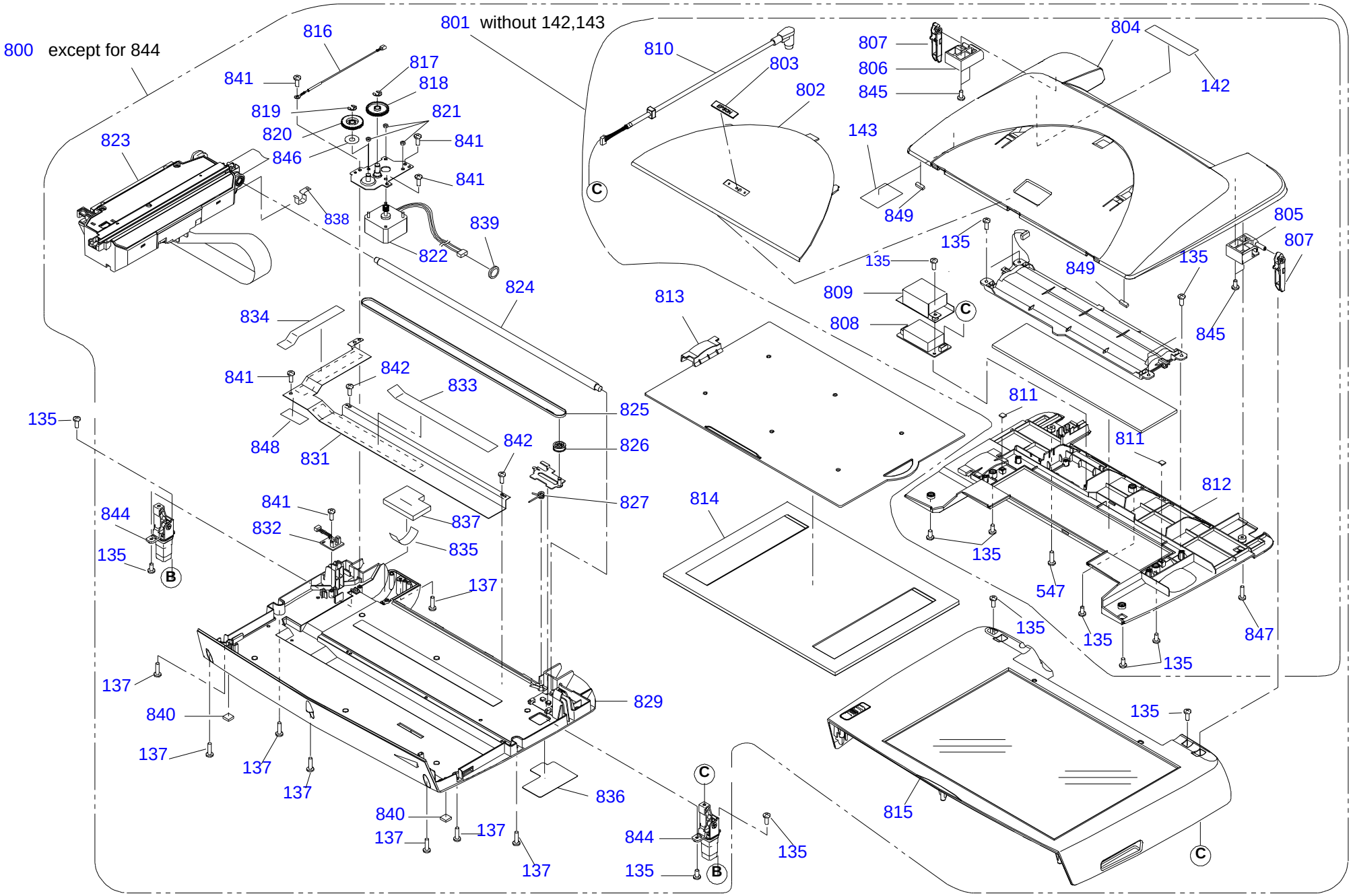
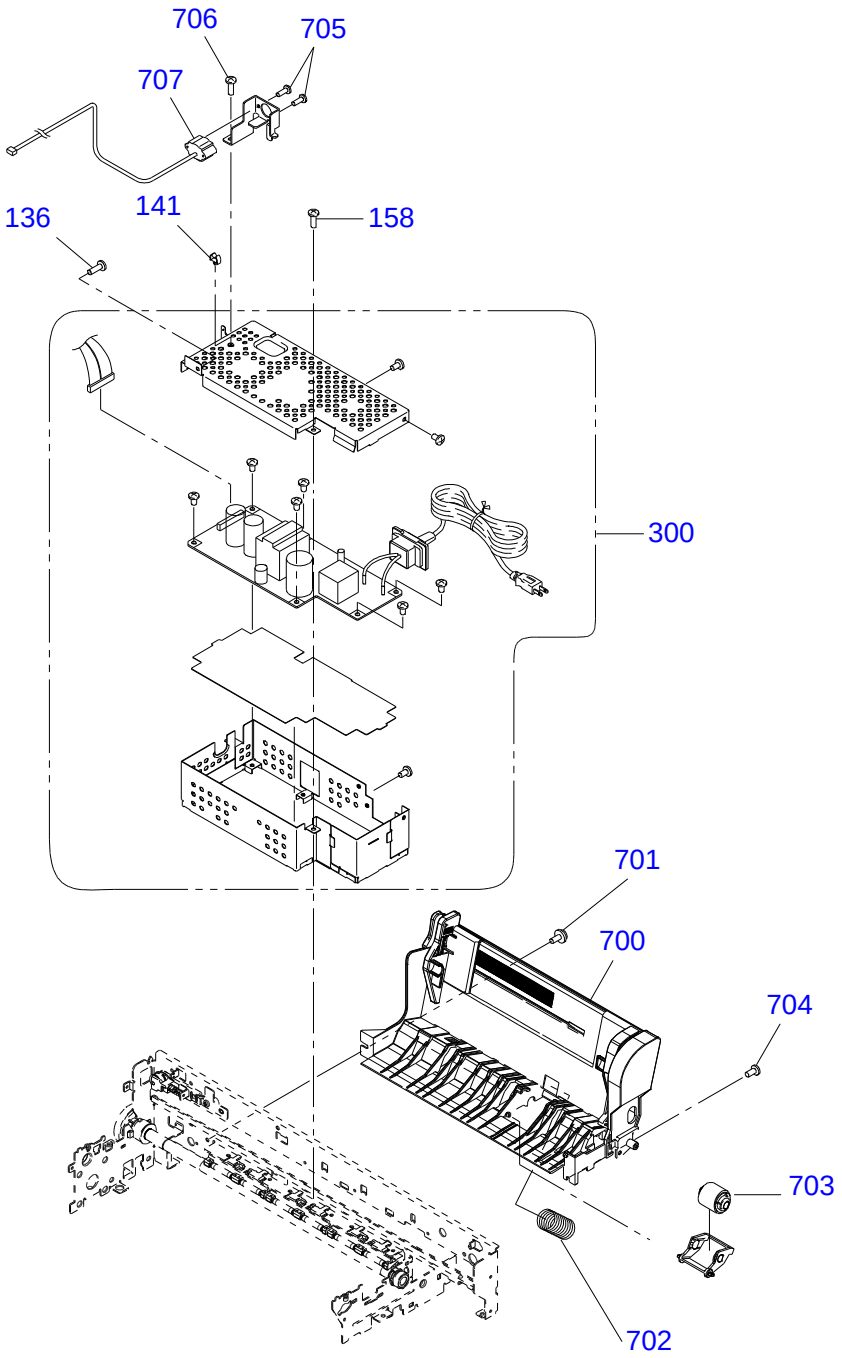
137
137



EPSON STYLUS PHOTO RX500/510 NO.4 Rev.03 C544-MECH-0012



EPSON STYLUS PHOTO RX500/510 NO.5 Rev.01 C544-MECH-002-S



EPSON STYLUS PHOTO RX500/510 NO.6 Rev.01 C544-MECH-003

7.4 ASP List

This section shows the ASP list of Stylus PHOTO RX500/510.

Table 7-2. ASP List

Ref No.	Part Name
100	PAPER,SUPPORT;EDG
155	COVER,FILM,35
156	HOLDER,FILM,SLIDE,35
NON FIG	I/C WITHOUT INDIVIDUAL BOX B,WST,AS,4CD01C
NON FIG	I/C WITHOUT INDIVIDUAL BOX C,WST,AS,4CD01C
NON FIG	I/C WITHOUT INDIVIDUAL BOX M,WST,AS,4CD01C
NON FIG	I/C WITHOUT INDIVIDUAL BOX Y,WST,AS,4CD01C
NON FIG	I/C WITHOUT INDIVIDUAL BOX LC,WST,AS,4CD01C
NON FIG	I/C WITHOUT INDIVIDUAL BOX LM,WST,AS,4CD01C
101	COVER,ASF;EFS2
102	HOUSING,MIDDLE ASSY.,B;EBM
103	COVER,FFC;EPAG
104	LOCK,SCANNER
105	LEVER,DETECTOR,SC
106	HOUSING,MIDDLE,B;EBM
107	FERRITE CORE,SSC-40-12-F
108	CLAMP,FFC
109	CLAMP,FERRITE
110	TAPE,FIX,PAPER GUIDE,FRONT;SUPPORT
111	LEVER,DETECTOR,STACKER
112	DUMPER,COVER,SLOT
113	BUSHING,COVER,SLOT
114	LOCK,COVER,SLOT
115	COVER,SLOT
117	DECORATION PLATE;EDG
118	STACKER ASSY.,EDG

Table 7-2. ASP List (continued)

Ref No.	Part Name
119	STOPPER,CR
120	COVER,MIDDLE,REAR;EPAG
121	OPERATION,PANEL;EN
122	COVER,MIDDLE,FRONT;EBM
123	BUTTON,L
124	BUTTON,M
125	BUTTON,R
126	HARNESS
127	GROUNDING PLATE,PANEL
128	OPTICAL TUBE,ERROR,LED
129	PANEL ASSY.
131	SHIELD PLATE,M/B,LOWER
132	SPACER,CARD SLOT
133	OPTICAL TUBE,ACCESS,LED
135	SHIELD PLATE,M/B,UPPER
136	C.B.SCREW(B010303311)
137	C.B.P-TITE,3x10,F/ZN
138	SHAFT,COVER,SLOT
139	C.B.SCREW(B010303311)
140	C.B.SCREW(B010303611)
144	COVER,TUBE;EBM
154	LABEL,CARD,SROT
157	I/F CABLE
158	C.B.P-TITE SCREW,3x8,F/ZN
159	DOUBLE SIDE TAPE,10x40
450	BOARD ASSY.,PANEL
200	BOARD ASSY.,MAIN
134	LABEL,POSITION,CARTRIDGE
137	C.B.P-TITE,3x10,F/ZN
141	MINI CRAMP,UAMS-05-0 V0

Table 7-2. ASP List (continued)

Ref No.	Part Name
142	LABEL,TYPE,IC;WST
143	LABEL,HEAD CLEANING
500	PRINTER MECHANISM(ASP)MAF11-104
501	CARRIAGE ASSY.;B
502	BOARD ASSY.,DETECTOR,PH
503	COVER,CABLE,HEAD
504	TORSION SPRING,LEVER,CARTRIDGE;B
505	COVER,TIMINGBELT,PF
506	CONECTING PLATE,FRAME,L
508	MINI CRAMP,UAMS-05-0 V0
509	TIMING BELT,PF
510	SPACER,INSULATOR
511	CLUTCH
512	STOPPER,PAPER,STACKER
513	SPACER,4.1x0.5x7.5,L/NA
514	PULLEY,EJECT,DRIVE;C
515	HEXAGON NUT,NORMAL,M3
517	SCREW,FRAME,MAIN
518	EXTENSION SPRING,1.494
519	MOTOR,ASSY.,CR
520	SHEET,PROTECT,SPLASH
521	COMPRESSION SPRING,2.36
522	LEVER,I/C
523	COMBINATION GEAR,27.2,19.2
524	SPUR GEAR,25.6
525	LEVER,CHANGE
526	COMBINATION GEAR,21,24
527	SPUR GEAR,27.2
528	INK SYSTEM ASSY.;C
530	TIMING BELT;C

Table 7-2. ASP List (continued)

Ref No.	Part Name
531	SCALE,CR
532	ROLLER,EJECT;C
533	BUSHING,6
535	RETAINING RING(B150300711)
536	BUSHING,6,LEFT
540	POROUS PAD,CAP,LOWER,LARGE
541	PROUS PAD,CAP,LOWER,SMALL
542	HOUSING,LOWER;EDG
543	FOOT
544	INSULATOR,FRAME,MAIN
545	PAPER GUIDE,FRONT ASSY.
546	GUIDE PLATE,CABLE,HEAD
547	FRAME,FRONT ASSY.
548	C.B.S. SCREW(B300204211)
549	C.B.P-TITE SCREW,3x8,F/ZN
550	MOTOR,ASSY.,PF
551	CABLE,HEAD
553	POROUS PAD,INK EJECT,UPPER LEFT;B
554	POROUS PAD,INK EJECT,LOWER LEFT;B
555	POROUS PAD,INK EJECT,UPPER RIGHT;B
556	POROUS PAD,INK EJECT,LOWER RIGHT;B
557	POROUS PAD,PUMP,LOWER
558	PROUS PAD,PUMP,REAR
560	SHEET,GUIDE PLATE,CABLE,HEAD
561	HOLDER,SHAFT ASSY.
563	EXTENSION SPRING,0.143
564	TORSION SPRING,0.22
566	LEVER,DETECTOR,PE
567	COVER,FRAME,PUMP;B
568	COVER,FRAME,PUMP,LEFT

Table 7-2. ASP List (continued)

Ref No.	Part Name
569	COVER,FRAME,PUMP,RIGHT
700	ASF UNIT
701	C.B.S-TITE(P4),3x6,F/ZN
702	COMPRESSION SPRING,2.53
703	RETURD ASSY.
704	C.B.S. SCREW(B300204211)
705	C.B(P)SCREW
706	C.B.P-TITE SCREW,3x8,F/ZN
707	HARNESS
800	SCANNER ASSY.
801	TPU ASSY.,Lid,ASP
802	HOUSING,TOP,TPU
803	LOGO PLATE
804	HOUSING,UPPER,TPU
805	HOLDER,HINGE;R
806	HOLDER,HINGE;L
807	GUIDE,HINGE
808	BOARD ASSY.,INVERTOR
809	SHEET,COVER BOARD
810	HARNESS,TPU;BLACK
811	STOPPER,LAMP ASSY.,TPU
812	HOUSING,LOWER,TPU
813	HOUSING,MAT
814	MAT,COVER,DOCUMENT
815	HOUSING ASSY.,UPPER,ASP
816	GROUNDING CABLE, SCANNER
817	RETAINING RING (B150300711)
818	PULLEY,IDLE
819	PLANE WASHER,4.5x0.5x8,L/NA
820	PULLEY,DRIVE

Table 7-2. ASP List (continued)

Ref No.	Part Name
821	6N,3,F/ZN
822	MOTOR
823	CARRIAGE ASSY.,ASP
824	SHAFT,CR
825	TIMING BELT
826	PULLEY,DRIVEN
827	TORSION SPRING,238
829	HOUSING,LOWER
831	GROUNDING PLATE,FFC
832	BOARD ASSY., SUB
833	DOUBLE SIDED TAPE,164x10x0.16
834	DOUBLE SIDED TAPE,115x10x0.16
835	DOUBLE SIDED TAPE,52x10x0.16
836	SHEET,COVER BOTTOM
837	FOAM,DUSTPROOF
838	CLAMP,TIMING BELT
839	FERRITE CORE
840	FOOT,SCANNER
841	C.B.P-TITE SCREW,3x8,F/ZN
842	C.B.P. SCREW(B320204312)
844	HINGE ASSY.
845	C.B.P.SCREW,4x12,F/ZN
846	SHEET,HOLDER ASSY.,PULLEY,DRIVE
847	C.B.P-TITE SCREW,3x12,F/ZN
848	DOUBLE SIDED TAPE,27x10x0.16
849	FOOT
300	POWER SUPPLY ASSY.;120V